The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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JAMES H. CROFTS, STOCK AND SHARE BROKER,
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Established 1842.

...ess transacted in all descriptions of MINING Stocks and Shares (British ...ign), Consols, Banks, Bonds (Foreign and Colonial), Railways, Miscel... Insurance, Assurance, Telegraph, Shipping, Canal, Gas, Water, and ...ares.
...ess negociated in Stocks and Shares not having a general market value.
...ss in COLLIERY and IRON Shares, and in the principal WAGON and ...CTURING COMPANIES of the NORTH of ENGLAND and SCOTLAND.
...ss in all the principal COTTON SPINNING Shares.
...H. CROFTS, having now established CORRESPONDING AGENCIES in all the ...owns of the United Kingdom, is prepared to deal in the various LOCAL ...d Shares at close market prices.
Accounts opened for the Fortnightly Settlement.
Monthly and Daily Price Lists issued.
...Bankers: City Bank, London; South Cornwall Bank, St. Austell.

...AL DEALINGS in the following, or part:—

...mi.	80 Gt. West Van, 11s. 3d	30 Prince of Wales, 2s. 6d
...daunant, 12s. 3d.	10 Great Laxey, £18⅞.	10 Richmond, £9 13s 9d.
...eton, £1.	25 Glyn, £3.	5 Roman Grav., £13⅞.
...n, £7¼.	40 I X L, £1.	50 Rookhope.
...edral, 17s.	180 Javali, 10s. 9d.	50 Sweetland Creek, 6s.
...r Creek.	20 Llanrwst, 26s. 3d.	50 Thornhill Reef, 1s. 3d.
...el House, £3¼.	50 Marke Valley, 30s.	5 Tankerville, £10⅝.
...tales, 6s.	20 Newport Abercarn.	10 Van Consols, £1 18s 9d
... Van, £9¼.	20 North Laxey, 14s. 9d.	5 W. Tankerville (pref.),
...na, 10s.	50 Pestarena, 5s. 3d.	£2 5s.
...hardt, £8 17s. 6d.	30 Parys Mount., 13s. 6d	50 Wheal Grenville, 10s.
...hequer, £2½.	25 Penstruthal, 12s. 6d.	(vall paid).
...staff, 30s.	10 Pennerley, 26s. 3d.	20 Wheal Crebor, £3⅛.
...tino, £2½.	5 Pateley Bridge, £4.	

*** Shares sold for forward delivery (one, two, or three months) on deposit of 20 per cent.

...AL BUSINESS in POSITIVE ASSURANCE, ROYAL, QUEEN, and SCOTTISH ...CIAL INSURANCE SHARES.
...siness on hand in all the principal TIN, COPPER, and LEAD Shares.

...ARIUM, HOTEL, AND MISCELLANEOUS SHARES.—...PECIAL BUSINESS.—FOR SALE, 5 Brighton Aquarium; 20 Royal ...inster), £2 2s. 6d.; 10 Langham Hotel, £17½; 10 Alhambra Palace (£10 ...9¼; 10 ditto (£8 paid); 5 Milford Docks (fully paid), £5½; 50 Skerne ...ks (offer wanted); 10 Midland Wagon (fully paid); 5 ditto (6 per cent.
JAMES H. CROFTS, 1, FINCH LANE, LONDON.

...LIERY SHARES.—SPECIAL BUSINESS in ALLTAMI, ...DILSON AND CRUMP, CHAPEL HOUSE, CAKEMORE, CARDIFF ...WANSEA, NEWPORT ABERCARN, NEW SHARLSTON, THORP'S ...ER, WEST MOSTYN (Ordinary and Preference), and Others.
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...TON SPINNING SHARES.—These steady and remunerative ...ecurities (comparatively little known on the London Market, but largely ... in the manufacturing districts) can be bought at the present time at ...ly favourable prices to pay good dividends on the capital invested. The ...g Shares (Oldham Mills) are amongst the safest and best of their class:—

...e of Mill.	Nom. amount of Share.	Paid up.	Last quarterly dividends, per cent.	per annum.	Closing quotations.
...l Spinning ...	£ 5	£2 10 0 ...	32, 10, 30,	26 ...	£ 3¼, £ 4¼
...acres	5	4 0 0 ...	30, 20, 30,	20 ...	5¾, 6¼
... Lane	50	Fully paid ...	30, 25, 30,	25 ...	80, 85
...n	5	2 0 0 ...	25, 35, 30,	20 ...	3, 3½
.....	5	2 10 0 ...	— —	12½, 20 ...	2¾, 3½
.....	5	2 10 0 ...	— 17½,	25, 20 ...	3, 3¼
.....	20	Fully paid ...	25,	5, 3½, 26 ...	30, 32
...scot	5	2 10 0 ...	30,	30, 27, 20 ...	3¼, 4

...he accounts of all the above companies are made up and profits divided ...ly.
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...REIGN BONDS—ARGENTINE—EGYPTIAN—RUSSIAN, ...SPANISH, TURKISH. SPECIAL BUSINESS, and latest information.
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...AILWAYS.—SPECIAL BUSINESS. Fortnightly accounts ...opened on receipt of the usual cover.
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...AD HILLS (LANARKSHIRE).—SPECIAL BUSINESS ...n these Shares.
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MINING INVESTMENTS,
...in a position to give reliable information and advice respecting the same.
... SALE, at prices annexed:—

...erdaunant, 13s. 6d.	30 Frontino, £2.	15 Pateley Brid., £3 18 9
...gentine.	15 Glyn, £3 1s. 3d.	20 Pennerley, 28s.
...dseye Creek, 16s 6d	100 Gold Run, 10s. 6d.	100 Penstruthal, 12s. 9d.
...ne Tent, £3.	5 Great Laxey, £18¼.	10 Roman Grav., £13 16 3
...ge Copper.	60 Great W Van, 12s. 3d.	15 Richmond, £10¼.
...dar Creek, 13s.	70 I X L., 21s.	50 Rookhope, 18s.
...leago Silver, £6.	50 Javali, 11s. 3d.	30 Santa Barbara.
...ndes of Chili.	25 Ladywell, 28s.	10 Tankerville, £10 8s. 9d
...von Consols, £2¾.	20 Marke Valley, 34s.	5 Van, £37¾.
...erhardt, £8 18s. 9d.	100 North Laxey, 15s. 6d.	25 Van Consols, 36s 6d.
...xchequer, £2 4s. 6d.	25 New Quebrada.	40 W. Tankerville, 33s 6d
...st Van, £10¼.	70 Parys Mount., 14s.	20 Wheal Crebor, £3½.

SPECIAL NOTICE.—ARGENTINE COMPANY (LIMITED).
...siderable attention is now being directed to these shares, and most de... so. That the mines owned by this company are of extraordinary rich ... now beyond doubt; all the reports fully confirm this, and the manager is ...ent that enormous profits will be realised as soon as the necessary machinery ...pliances for treating the ores are completed. It is not too much to say that ...pects of Argentine are unequalled by any other property in the market. ...hares, which are firm and in demand, have during the past week advanced ...0 per cent., and they will, no doubt, continue to improve in value on the ... of the property alone. A further and important rise may be confidently ...ted, and intending investors should, therefore, act without delay. Full par... of the mines and every information concerning the company may be ob... on application to MR. BUMPUS, who has special facilities for dealing in the ...

WILLIAM HENRY BUMPUS, SWORN BROKER.
...siness transacted in Stock Exchange Securities and Miscellaneous shares of ...description. Fortnightly accounts opened. References given and required ...necessary. A Stock and Share List forwarded free on application.
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	Buyers.	Sellers.		Buyers.	Sellers.
Assheton	15s.	...17s. 6d.	Pennerley	£ 1¼	£ 1½
Birdseye Creek	12s. 6d.	...17s. 6d.	Penstruthal	11s.	13s.
Devon Great Consols	£ 2½	£ 2¾	Plynlimmon	5s.	6s.
Eberhardt	8½	9	Prince of Wales	2s.	4s.
East Caradon	12s. 6d.	15s.	Richmond	9¾	10
East Van	9¾	10¼	Roman Gravels	13½	14
Exchequer Gold	2	2¼	Rookhope	15s.	...17s. 6d.
Flagstaff	1⅜	1½	Rossa Grande	—	1s.
Frontino	2	2¼	Santa Barbara	1⅞	2⅛
Glenroy	4½	5	San Pedro	⅞	1⅛
Glyn	2⅞	3⅛	Sierra Buttes	1	1¼
Great Laxey	18½	19⅛	South Condurrow	3¼	3½
Great West Van	11s.	13s.	Tankerville	10¼	10½
Javali	9s.	11s.	Tincroft	17	18
Ladywell	1¼	1½	Van	37	39
Marke Valley	1⅛	1⅜	Van Consols	1½	1¾
North Laxey	14s.	16s.	West Assheton	⅞	1⅛
New Quebrada	3⅛	3⅜	West Chiverton	17	18
Old Treburgett	4s.	6s.	West Tankerville	1⅜	1⅝
Parys Mountain	12s.	14s.	Wheal Basset	8	10
Pateley Bridge	3½	4	Wheal Crebor	2¼	2¾

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Argentine, Condes, Eberhardt, Richmond.

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Transact business in Stock Exchange Securities and Mining Shares of every description, either for immediate cash or the usual bi-monthly settlements, and also afford advice personally or by letter to executors, trustees, capitalists, and investors of every class in the selection of Securities for safe and profitable investment, their experience of the markets, extending over a period of more than sixteen years, together with special facilities for acquiring information, enabling them to act beneficially for clients.
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BUSINESS transacted in all kinds of STOCK EXCHANGE SECURITIES, also in every description of BRITISH and FOREIGN MINING SHARES.
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Glyn.	Glenroy.	Penstruthal.
Pennerley.	Great Laxey.	Ladywell.
Van Consols.	West Wye Valley.	Parys Mountain.
Grogwinion.	Llanrwst.	North Laxey.
Pateley Bridge.	Great West Van.	Lead Hills.
Tankerville,	Marke Valley.	East Caradon.
Roman Gravels.	West Chiverton.	West Tankerville.
	COLLIERIES.	
Chapel House.	Cardiff and Swansea.	Bilson and Crump, &c.
	FOREIGN MINES.	
Richmond.	Eberhardt.	Frontino.
Exchequer.	Flagstaff.	Emma.
Javali.	Chontales.	I. X. L.
Malpaso.	Port Phillip.	Malabar.
San Pedro.	Rica.	South Aurora.
Birdseye Creek.	Sweetland Creek.	Cedar Creek.
New Quebrada.	Don Pedro.	Yorke Peninsula.

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TO INVESTORS AND SHAREHOLDERS.

SHARES FOR SALE, FOR CASH.—
Offers can be made in "Lots," or less numbers would be sold:—

200	ABERDAUNANT	LEAD.	150	PATELEY BRIDGE	LEAD.
90	ASSHETON	do	200	PENNERLEY	do
200	CENTRAL VAN	(offer) do	200	PRINCE OF WALES	COPPER.
100	EAST CHIVERTON	do	50	ROMAN GRAVELS	LEAD.
30	EAST VAN	do	150	ROOKHOPE	do
200	ELGAR	do	100	SAINT PATRICK	do
50	GLENROY	do	200	TALYBONT	(offer) do
100	GLYN	do	60	TANKERVILLE	do
20	GREAT LAXEY	do	12	VAN	(offer) do
200	GREAT WEST VAN	do	100	VAN CONSOLS	do
55	GROGWINION	(offer) do	25	WEST CHIVERTON	do
200	LADYWELL	do	100	WEST TANKERVILLE	do
100	LLANRWST	do	48	WEST CRAVEN MOOR	do
200	MEDLYN MOOR	TIN.	100	WEST WYE VALLEY	do
50	MONYDD GORDDU	LEAD.	5	WEST WHEAL SETON	COPPER.
190	NORTH LAXEY	do	100	WHEAL CREBOR	do
200	PARYS MOUNTAIN	COPPER	50	WYE VALLEY	(offer) LEAD.
200	PENSTRUTHAL	TIN.	100	WEST GOGINAN	do

N.B.—A few of the above will be sold much under present market quotations.
OFFERS CAN BE MADE.
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ENDEAN, FISHER, AND CO., of 3, LOMBARD COURT, E.C., are BUYERS of ONE THOUSAND SHARES. *Bona fide* sellers need not advertise.
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Fortnightly accounts opened in rails, foreign stocks, and mining shares, upon receipt of the usual cover.
SPECIAL BUSINESS in the undermentioned, viz.:—

20 Aberdaunant.	50 Malpaso.	200 Victoria.
100 Central Van.	150 Malabar.	40 West Wye Valley.
20 Hornachos.	100 Port Phillip.	10 West Goginan.
50 Javali.	20 Richmond.	10 Western Andes.

Investors should consult Mr. C. as to the purchase of Richmonds. Full and latest particulars of the mine can be had on application.
VICTORIA (LONDON) MINING COMPANY (Limited).—£1 shares, fully paid, specially recommended, paying dividends half-yearly at the rate of about 16 per cent. per annum on present price.
CHAPEL HOUSE COLLIERY.—Orders to Buy or Sell these shares should be made at once, as I now have some large orders on hand to execute for clients.

GROGWINION LEAD MINE (LIMITED).

MESSRS. H. HALFORD AND CO., STOCK AND SHARE BROKERS, of EXCHANGE CHAMBERS, CHANGE ALLEY, LOMBARD STREET, LONDON,
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Daily Closing Price Lists of Mines and all other Securities sent post free on application.
Messrs. H. H. and Co. are BUYERS of Shares in GROGWINION MINE, and also of Shares in WYE VALLEY LEAD MINE; and they will be GLAD TO HEAR from BROKERS or DEALERS who have ANY FOR SALE.

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100	CHAPEL HOUSE COLLIERY SHARES, at ...	... £3	12 6
100	PARYS MOUNTAIN COPPER, at	0	13 6
10	GREAT LAXEY LEAD, at	18	10 0
10	GLENROY LEAD, at	5	0 0
10	GLYN LEAD, at	3	0 0
50	KINGSTON CONSOLS LEAD, at	1	0 0

WANTED TO BUY:—
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10 to 20 MINERA ditto
100 to 150 CHICAGO ditto
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Royal School of Mines.

PROF. SMYTH'S LECTURES ON MINING—No. XLVI.

[BY OUR SPECIAL REPORTER.]

We have now to observe some of the improvements in the raising of the mineral which have taken place in the last half century. A very important improvement was made by the German miners at an early period by guiding the kibbles in the shafts. Where the shafts were perpendicular it was very frequently the case that no actual conductors were put in, but the interior of the shafts were made as smooth as possible. In many of the collieries it was the case that the interior of the shaft was so thoroughly lined with smooth plank that the corve would slide down it with very little friction; and if there were separate compartments for each corve a great speed could be obtained, but where two or more corves were in one shaft great complications and delays occurred by mishaps as they were passing. Guides were probably first put in the incline shafts of Germany where the underlie was considerable, and they consisted simply of a piece or pieces of wood, forming a kind of inclined plane on which the wheels of the kibble could run. These may be seen brought to high perfection in some of the Saxon mines, and they have been introduced into the improved shafts in Cornwall. The carriages employed for use in these cases are what are very improperly called "skips" in Cornwall. One variety of these is usually a square box of metal (of wood in Saxony), with a door at the side, fastened by a simple bolt, and a sloping bottom, so that when brought over a wagon at the surface, and the door opened, the material readily falls out. This runs on wheels on the inclined plane. The plane consists of a couple of longitudinal pieces of timber, bolted to transverse pieces across the shaft, with some arrangement for holding the two fast. In the case of the collieries guiding has been a matter of very recent introduction. Mr. Carr, of Sheffield, was long before his time when, in the end of the last century, he proposed the use of guides, for even as late as 1835 Mr. George Stephenson expressed himself doubtful whether such a plan was necessary. But from 1835 to 1840 they began to be employed in the North, and now there is scarcely a pit in these districts where guides and conductors are not employed. Most commonly the guides are of wood, pine wood being very largely used. In a narrow pit, if the width of the pit is such as can just be conveniently occupied by the cage, the guides will be longitudinal pieces of wood attached to the framework, but more usually they are attached at convenient length to buntons, or cross pieces. These guides may be 4 in. by 3 in. in section, or be lighter or heavier. In a well constructed shaft it is found that a couple of these bars are sufficient to steady the cages. A plan came into use early in Lancashire of fixing to the upper part of the shaft frame, and to the bottom of the pit, wrought iron rods, usually screwed together in lengths, a ring on the cage passing over these guides, and these had the subordinate convenience of conveying the signals. Another plan is to have iron T-rails down the shaft spiked to the cross buntons; or, again, instead of the wrought-iron rods iron-wire rope has sometimes been employed. These ropes can be kept taut by means of screws, or by attaching a weight of a ton or two at the bottom, rings from the cage run over them, and they are found to answer their purpose exceedingly well.

If we turn next to the cages themselves, we may consider, in the first place, the water balance which is applied in the case of two parallel pits close together, or to two divisions of the same pit. The rope is connected at the surface of the ground with a large wheel, to which is attached a powerful brake apparatus. The cage then consists of two divisions, an upper staging on to which the wagon can be run, and a lower compartment which is made to contain water. The caging which is now at the surface is intended to go down with the empty wagon against the full one to come up; accordingly water is run into the lower compartment till the whole weight exceeds that on the other side, and the cage begins to move downwards. The downward movement is regulated by a man at the wheel using the brake. As soon as the cage reaches the bottom it strikes against a stone, which raises a valve in the lower part, and allows the water to run out. Then the same arrangement is repeated with the other cage. This is an extremely cheap way of dealing with water power, when you are able to let off the water by means of an adit level, and that is the condition which usually obtains in the South Wales districts where the method is employed. And even in cases where there is no adit level, and where the water has to be pumped up again, this method is sometimes employed, from the fact that pumping engines have advantages over and are far in advance of winding engines. Nevertheless, this method is doomed to disappear, in the face of the improvements in winding, and as the circumstances become more disadvantageous. Watt's engines were at first used only for pumping, but within the last half-century variously arranged engines have come into play for winding. Engines with horizontal cylinders are largely used, and such have sundry conveniences, as the facility with which they can be examined, the absence of the necessity of building up tall engine-houses, the mechanical advantage of having the motion always in one direction, whereas with the beam engines there is a loss of power at each alteration. Not that the horizontal engines have all the advantages, vertically placed cylinders, especially with double cylinder engines, are largely used, more especially in the French and Belgian mines, and there is one point about them of very great importance as compared with engines of a former day—that they work directly on the axle of the drum without any gearing. In the collieries, where we have a great depth, large pits and great strength of rope, these drums attain very large dimensions; where cylindrical drums are employed they have sometimes reached from 18 to 26 ft. diameter. Every point about them has to be most carefully considered, since half a stroke of the engine brings the load through a very great distance in an instant. Near the top and bottom of the cage small pieces of iron are placed to clasp the guides, and in order that they should not become wedged they are made to curve somewhat outwards. In a simple cage, intended to carry one or two buckets or tubs, we find these parts—a framework of wrought-iron, with usually a short chain attached to it; an iron or wooden floor, on which are rails for the tub to be run on to; and attached to the framework above and below will be the sliding pieces which embrace the guides (usually on three sides). According to the size of the shaft, and the nature of the tubs, it may be most convenient to place them side by side, more usually end to end, in this latter case having the convenience that on reaching the surface the man can push them out at once by the empty tubs that are to go down. The cages may have more than one floor, many have two decks, or, as in some Belgian cases, as many as six decks, each for a single tub, the shaft being narrow. For cages with more than one tier there should be separate stages, both at surface and below, from which to load and empty each tier, to avoid the inconvenience of having to move the cage successively in order to bring each tier in turn on a level with a single stage.

Quite recently it has been proposed to load and unload by means of hydraulic pressure: the lecturer had not seen the scheme at work, but thought that there was a great field for improvement in this matter. In collieries of moderate dimensions one pair of ropes may be raising 400 or 500 tons of coal in eight or ten hours; in some cases 1000 tons may be raised in that time. With the great depth comes in a difficulty, for where you have a couple of ropes passing over one pulley at times you will have one load near the surface while the other is near the bottom; the great inequality of the length of rope then in the two cases greatly destroys the balance; at one point in the shaft there was equilibrium, but throughout the greater part of it there has been an inequality of work on the two sides. The empty kibble in descending with the rope attached to it may so much outweigh the ascending full kibble that there will be a great tendency for the former to go down with great velocity, and it may be necessary to set the engine to work against it. It may be obviated to some extent (as we saw in the case of the horse power) by making the rope wrap round and round on itself, so that the full kibble acts at greater and greater leverage, while the empty kibble acts with constantly diminishing leverage, and the work may thus be more equable throughout. Hence the introduction of flat hempen ropes, but the wear and tear is so serious a source of expense that in the last few years there has been a tendency to return to another plan. This is the use of a conical drum, the first use of which the lecturer saw in Hungary, and in the mines of Berehaven in the extreme West of Ireland. The rope commences to wind on the smaller part of the drum, and as the weight approaches the surface gets more and more on to the larger portions. Within the last eight or ten years this plan has come into large application, in conjunction with round instead of flat ropes, these being of iron or steel wire. Some of the larger drums have the slope too great, and this gives a tendency for the rope to slip, such slip might be attended with most serious results; to prevent this it has been suggested to place a flange at the edge. The drums are also attended with powerful brakes. Another plan is used for counterbalancing a very heavy weight. From a small drum on the same axle a strong flat chain is carried to a pulley placed a considerable height above the ground, and the chain passes down into a shallow shaft, and is there attached to a number of heavy rings of iron. This is wound in such a direction upon the drum that when the engine has its greatest task to perform—the lifting of the full weight from the bottom, with all its rope attached—the weight of the chain and iron will assist the engine; but as the engine raises the load to an easier position this heavy chain begins to subside at the bottom of the shaft, and thus less and less of its weight acts on the drum. Similarly in the case of the descent of the empty kibble the superabundance of power is employed in raising this chain again. This contrivance appears to answer its purpose very well, and may be found working in many of the deeper collieries of the North. In our deepest British pits may be seen some of the best arrangements known anywhere for drawing. In the Rosebridge Collieries, in Lancashire, you may step into the cage and find yourself at the bottom—800 yards below the surface—in less than a minute; and if you stand on one side of the shaft the velocity of the cage in flying past reminds you, perhaps, of nothing else than the shot from a gun. It is argued by some that such a velocity cannot be safe, but when proper precautions are taken we are justified in concluding, from experience, that the danger is no greater than with slow winding.

As far back as 1846 some ingenious methods began to be proposed for guarding against accidents from breaking of the rope. On a close examination you find that apparatus of this kind introduces another source of danger, and it is, of course, a very doubtful advantage to endeavour to cure one evil by another, and one should be very careful before introducing anything which would take off the responsibility from the persons concerned in the operations. These safety-cages (French, *parachutes*) have depended on one of three different plans—1. A pair of legs with sharp teeth, which in case of accident shall dig into the wooden guides and support the cage, but under ordinary circumstances are kept up by the action of the rope on a pair of levers, the legs being brought into play by a spring where fracture occurs. These have been employed in many of the Belgian and French collieries with much success.—2. An eccentric is attached to the cage, with teeth in one part of it; if an accident occurs a spring is released, which has been kept in compression, and the wider toothed part of the eccentric will spring round and clutch the sides of the guides. Both these methods have been objected to, since they sometimes come into play when not required, and may give rise to accident, or again in case of accident if a large quantity of the rope coils on the cage it may give way, and again that it cuts the guides to pieces.—3. Where different kinds of grips come into play by the action of a spring. Another variety of safety apparatus is for security against overwinding, a most serious cause of accidents. The safeguards, one may say, will be found to a great extent in employing good apparatus and careful men in charge of the engine, &c., but even under the most favourable circumstances such accidents will sometimes occur.

The lecturer described several varieties of apparatus by means of models, by which in case of overwinding the cage was detached and suspended, and referred to a paper by Mr. Wright, written for the Derbyshire Engineers' Institute, for an account of the later inventions.

THE IRON AND STEEL INSTITUTE IN LEEDS.

THE EXHIBITION.

An interesting exhibition of models of machinery, plans, drawings, and products of manufacture, took place in the Victoria Hall, a splendid building, admirably adapted for the purpose. Although not so varied as some previous exhibitions, it was not without attractions of its own, especially so far as steel manufacturers were concerned. Along with a capital photograph of their works the Landore Siemens Steel Company exhibited samples of a 3 by 3⅜ steel angle for Her Majesty's ships "Iris" and "Mercury," twisted when cold; also sections of steel beams and angles for the construction of Her Majesty's armed despatch vessels; a sample of steel wire for needles; and a thin sheet rolled from mild steel, 0·001 inch in thickness, and the 6th part of an ounce in weight. Mr. Wood, of the Tees Ironworks, Middlesborough, showed his appliances for the manufacture of slag bricks and slag cement as used by the Cleveland Slag Working Company. The products included slag wool for boiler coating, slag sand of three different kinds and colours made from white iron, forge iron, and No. 1 iron and slag broken up for the purposes of concrete, which he calculates his ability to produce at fourpence per ton. A number of samples of bricks, made from slag sand by Mr. Wood's process, were likewise shown. These bricks are cast in sand core shells, and stacked one on the top of another 8 to 10 high, about 1000 being in the pit at one time. The slag is then allowed to run in, and piles up the cores layer after layer, when they are left to cool. The bricks shown were of two qualities, one which is very light for building purposes, and another which is much heavier for paving streets and channelling. One quality is sold at 22s. 6d., and the other at about 30s. per 1000. The blocks for paving are made from slag run direct in its liquid condition from the blast furnace to the moulds. The Cleveland Slag Company have at least demonstrated, so far as the results here shown are concerned, that bricks of a much finer texture, and of less weight than ordinary bricks, can be produced from slag sand.

The Kirkstall Forge Company showed samples of iron in various shapes and forms of fracture, and the Weardale Iron and Coal Company had on view pieces of angles, bars, and plates, produced by the patent steel process, with which the name of Mr. Charles Attwood is identified. Some time ago an application was made to the Supreme Courts for a prolongation of Mr. Attwood's patent, which was granted for a further period of three years, and in the meantime the Weardale Company are bringing the qualities of Mr. Attwood's steel, which is chiefly made from the Weardale "rider" ore, under the notice of steel consumers. The following tables exhibit the tensile strength of Attwood's steel, as certified by Mr. David Kirkcaldy:—

FORGE TEST HOT.

Test No.	Description.	Angle.	Effects.
1170	Plate lengthway	180°	Uncracked
1189	ditto	180°	ditto
1190	ditto	180°	ditto
1171	Plate crossway	180°	ditto
1181	ditto	180°	ditto
1191	ditto	180°	ditto
	FORGE TEST COLD.		
1172	Plate lengthway	180°	ditto
1182	ditto	180°	ditto
1192	ditto	180°	Slightly cracked
1173	Plate crossway	180°	ditto
1183	ditto	180°	ditto
1193	ditto	180°	Cracked

Another interesting "exhibit" was Mann's apparatus for determining the temperature of hot-blast. This apparatus admits of a mercury thermometer being employed for ascertaining the temperature of hot-blast. The temperature indicated by the thermometer does not, of course, represent the actual temperature of the hot-blast; but to ascertain this it is not only necessary to insert a metallic pyrometer in the hot blast-pipe, and compare the relative indications, in order to fix a ratio. Any ratio desired may be obtained by a simple adjustment of the bore of the tapered nozzle. When the object is only to regulate the temperature of the blast this adjustment is not required, it being sufficient to note the degrees indicated by the thermometer when the blast is at the ordinary working temperature, and thereafter maintain it at that point. The apparatus is extremely simple, and can be easily fixed. It records continuously the temperature of the blast passing through the pipe to which it is connected, and, unlike the metallic pyrometers, is not liable to get out of order.

Mr. Henry P. Holt, of Leeds, showed his automatic steam-tight waste-cocks for cylinders. The patentee states that "The many serious and costly accidents to steam-engine cylinders, occasioned by the accumulation and compression of water, together with the great loss of steam which takes place where the ordinary appliances of getting rid of water are used, have long shown the necessity for a waste-cock, which, whilst providing against accidents, can be so arranged as to allow water to escape from steam cylinders without any loss of steam taking place. These objects have been fully accomplished in this simple apparatus. These cocks allow water, but no steam, to escape at every exhaust stroke of the engine, and they open automatically whenever the engine is stopped, and do not stick fast."

The White Brass Company of Lombard-street, Southwark, showed a number of specimens of manganese bronze—a new alloy, which can be cast into any form required, and in this state it exceeds the best gun metal in strength and toughness by fully 50 per cent., and is about equal to wrought-iron of average quality. It can be forged or rolled at a red-heat, and drawn into tubes, wire, &c. After being forged or rolled its strength is increased to that of mild steel with nearly the toughness of copper. It can also be made of various degrees of hardness, the harder qualities being adapted to sustain friction and resist wear and abrasion.

Messrs. R. Berryman and Company, of Birmingham, exhibited their patent universal expanding tubular feed water heater, which utilises the waste heat in exhaust steam. These feeders have now been in use for four years in all kinds of water, some of which have been impregnated with lime, where they are now in successful operation, and we have put them in where others have failed. In no country has it been known where a heater has required either attention or repairs after being tested and delivered from the works, and the heaters working in bad water have continued to heat it to 212°. It is claimed that the saving in coal ranges about 20 per cent. on non condensing engines, besides increasing the durability and safety of steam-boilers by supplying them with feed water (free from grease and deposits) at the boiling point. In all cases where water pressure can be obtained to feed against the pressure of the boiler it is only necessary to attach this heater. No pump is required, as the exhaust steam and feed water are entirely separated, and even when a pump is used the construction of the heater allows it to work cold water, while an open heater compels in any case the loss of power, and sometimes the wear of two pumps, in addition to the trouble of leaky valves by expansion from the hot water. The Berryman feed-water heater requires no attention from the attendant, only to open the mud-cock and blow out the deposits, which are invariably pumped into the boilers by the wrong construction of many so-called heaters. The machinery and mode adopted for bending and putting the tubes in the tube plate entirely avoid the difficulty of expansion and leakage which would occur with straight tubes, as used in heaters of different construction.

Among other exhibitors were Mr. Cooke, of Durham, who showed his patent ventilating fan, as applied to the Upleatham and Skinningrove Mines of Messrs. Pease, in Cleveland; and Mr. Walker, of Saltburn, who showed his ingenious detaching hook for the prevention of overwinding in collieries. The Kirkstall Forge Company showed a model of a steam-hammer, which appears to be of very simple and efficient construction. Kaye's patent railway carriage door is also shown, the handle of which acts as a signal, inasmuch as it cannot possibly get down if the door is not fast.

The annual provincial session of the Iron and Steel Institute was opened on Tuesday, in the Town Hall, Leeds, under the presidency of Mr. MENELAUS. The meeting was held in the Civil Court, Town Hall, a building admirably adapted for the purpose. There was not a very large attendance of members on the first day, nor were the proceedings, on the whole, of a very remarkable description. The usual welcome was given to the Institute by the Mayor of Leeds, who called attention to the fact that when he was a boy there were only two ironworks in Leeds, where there are now some scores, while it was also remarkable that the old staple trade of flax had been overshadowed in importance and value by that of iron. Mr. MENELAUS, in the name of the Institute, thanked the Mayor for his hospitality, and paid a tribute to the excellence of the iron made in Leeds and its neighbourhood, which he described as the best in the world.

The PRESIDENT announced that the council had decided to recommend to the Institute the name of Dr. Siemens, F.R.S., as president elect. He paid a tribute of respect and admiration to the high services which Dr. Siemens had rendered to the cause of science, and hoped that the members would unanimously approve of the recommendation of the council.

Mr. W. R. J. HOPKINS then moved, and Mr. MASSICKS, West Cumberland, seconded, the election of Dr. Siemens, which was carried by acclamation.

Dr. SIEMENS said he hardly knew how to express the deep feeling of what he might call gratitude for the great honour done him, and for the kind manner in which his name had been mentioned by the proposer and seconder of the resolution, and the cordial way in which it had been received. It was an honour which he had not sought. Indeed on arriving in Leeds the previous evening he had not the slightest idea of the action which the council had taken at the last meeting. He doubted whether he should be able to do justice to the responsible office which had been placed upon him. That institution had had a career of extraordinary success, a success which was owing no doubt to the need which there existed for an institution of this kind. But its success was also owing in a great measure to the able president and the able secretary, who had been at the head of the institution, and had managed to lead it in a way to accomplish a really useful object. It was a matter of doubt to him whether he should be able to carry the institution forward in the same career of usefulness as hitherto; but of one thing he could assure them, and that was that he should not be wanting in zeal, and that at any rate it would be his endeavour so to conduct matters that the institution should not retrograde, but if possible he should advance it in the same manner as hitherto. (Applause.)

GEOLOGY OF THE YORKSHIRE COAL FIELD.

Professor GREEN, F.G.S., of the Yorkshire College of Science, submitted a paper on this subject. The author stated that the lower portion of the Yorkshire coal measures contains a few seams of small thickness, and at best of only second-rate quality. Good use is made even of these beds for local consumption, but they need not detain us now. One product of these measures, however—ganister—is too important to be passed over. Ganister is a highly silicious rock, which, when ground down and mixed in some cases with powdered fire-brick or similar materials, forms one of the best fire resisting substances known. It is very generally used for lining the Bessemer converters, and in similar situations in the manufacture of iron and steel. Ganister is found almost exclusively in the lower measures, and generally forms the seat of a bed of coal. There is one bed known as the Halifax Hard, or ganister coal, beneath which ganister is almost always found, and the seat-stone of this seam is not only more constant in its occurrence, but is, I believe, as a rule of better quality than the ganister or other horizons. The next stratum deserving notice was the great band of sandstone known as the Eiland Hag Rock. To the geologist the bed is of considerable interest. In nearly every case sandstone beds, however thick and important they may be at some spots, have a very limited horizontal range; they almost invariably grow thinner and thinner in every direction till they wedge out to nothing. In fact it is scarcely ever correct to speak of beds of sandstone. What we have are large banks of indurated sand. The Hagstone, however, forms a marked exception to this rule. Though subject to great variations both in thickness and character, it may be traced under some form or other throughout the whole length of the Yorkshire and Derbyshire coal field; and, moreover a similar rock—the Rochdale or Upholland Hagstone—occurs in a corresponding position in Lancashire. The conditions which give rise to deposition of fine sand with so much uniformity over so large an area are not easy to realise, and a perfectly satisfactory explanation of the method of the formation of this rock is, I think, yet to be furnished. Economically this rock is of great value. The best samples are probably unequalled, and it also yields in many places an excellent building stone, as, for instance, the beautiful blue freestone of Green Moor, near Penistone. A little way above the Hagstone comes the important group of the Low Moor measures. The underclay of the Better Bed coal frequently furnishes an excellent fire-clay. The bricks and other articles manufactured from it at Wortley, near Leeds, have a high and well deserved reputation. The great merit of the Better Bed coal is its freedom from sulphur. In spite of its small thickness, which, perhaps, does not average above 18 in., it is largely worked for the processes of iron manufacture, and it is in a great measure to the use of this coal for the purpose of smelting that the excellence of both the Low Moor and the Bowling iron is due. The Black Bed coal, though serviceable for engine purposes, is scarcely a bed that

would be worked except for local consumption for its own sake alone, but when the overlying ironstone measures are so close to the coal that the two can be wrought together its getting becomes profitable. The ironstone occurs partly in nodules, and partly in thin nodular layers in a band of carbonaceous shale. The actual thickness of the ironstone and the shale partings vary very much from place to place. "The ironstone cannot be called a very rich ore; the average percentage of metallic iron, taking all the layers together, does not probably exceed 30 per cent. The excellence of the iron made from it seems due to various causes. The utmost care is taken to clean the stone thoroughly from the shale which adheres to it when it is brought to the surface, by exposing it to the air in a flat heap, by repeatedly turning it, and by using every endeavour to pick it quite clean. The purity of the Better Bed coal, which is used for smelting the stone, further conduces to the result, and no little is due to the skill which results from long experience in calcining, smelting, and forging." The measures just described certainly form one of the most valuable portions of the north-western part of the coal field, but they are strictly local in their extent. They may be traced under the form just given as far south as Huddersfield, but over a portion of that range they decrease very much in value. The next seam of any importance is the Beeston Bed coal, which lies some 70 yards above the Black Bed. When at its best it contains as much as 6 ft. of coal in several beds, separated by thin partings of clay. The beds and partings vary very much, however, and give rise to corresponding variations in the value of the seam. A portion of the seam is used as a house coal; other parts furnish steam and smithy coals. It is only in the neighbourhood of Leeds that this coal can claim a place among the seams of first importance. The other seam which plays a leading part in supplying the demands of this neighbourhood is the Middleton Main, which lies some 90 yards above the Beeston Bed; this bed yields both house coal and engine coal of good quality. In the immediate neighbourhood of Leeds the total thickness of this seam reaches 4 ft. 6 in., but in some other localities the partings of clay swell out, and render it far less valuable. The variable character of this seam was briefly dwelt upon. About 220 yards above the Middleton Main comes the Haigh Moor coal, the chief seam of the district between Leeds, Wakefield, and Pontefract. This seam runs from 3 to 4 ft. in thickness, and yields excellent house coal. In the course to the south the bed undergoes important changes, and eventually becomes a worthless mass of shale. Further south still, in the same horison, is a coal called the Swallow Wood, which has as yet been little worked, but which probably will some day be of value. Though the evidence is not conclusive, I lean to the idea that the Haigh Moor and Swallow Wood grew in distinct swamps, and that where we find the Haigh Moor becoming split up with shale, and its coal becoming earthy and dirty, we are approaching an old ridge of ground which bounded the swamp, and from which running water carried down mud on to the adjoining flat, and mixed up impurities with the vegetable matter that was accumulating there by growth. Referring next to the Silkstone and the Barnsley coal, Mr. Green said they are the only two beds worked to any great extent over the part of the coal field south of Barnsley. The Silkstone coal consists of two beds averaging about 2 ft. 6 in. each, and over nearly all the area where it is known the dust parting between the beds is only a few inches in thickness. It yields a house coal which can scarcely be equalled, and is admirably adapted for coking. Some few miles to the north-west of Barnsley the dust parting swells out to 7 or 8 yards —other partings come in and split up the coal, and the coal itself is reduced in thickness and deteriorated in quality. After defining the position, thickness, and value of the Blocking coal, the Barcelona coal, and the Gawthorpe bed, the paper said—"There are many beds besides those mentioned which have been already largely worked, and still others as yet all but untouched, on which we shall be able to fall back when the present ravenous consumption shall have exhausted all the finest seams. But I should be guilty of still greater unfairness to the coal field if I omitted all reference to the vast extent of ground beneath which the coal measures extend, and which is yet unpierced by a single shaft. All the explorations that have been hitherto carried out may be described, without much exaggeration, as crop workings. Ten years ago the number of pits whose depths reached or exceeded 300 yards might have been counted on the fingers; and, though in localities where railway communication is available some deeper winnings have been achieved, the number is still but small. Of the extent of coal measures exposed at the surface there still remains some 40 square miles, from which not a single ton of coal has yet been taken, and beneath which the whole of the known seams exist under some form or other. I believe, also, that the depth to the lowest workable seam will in no case exceed 1000 yards over this area, so that all its contents may be fairly looked upon as within our reach and available for future use. A sinking is now in progress in this *terra incognita* at South Kirby, between Wakefield and Doncaster, and its result will be looked forward to with the greatest interest. The new railway in course of construction between Swinton and Knottingley will open out a large district, where hitherto it would have been impossible to keep a large colliery going; and, should the Kirby sinkings turn out a success we may expect to see many similar ventures started to the north and likewise to the south of it. The risks, of course, in ground also little known are considerable, but even should the seam first thought of turn out a failure it will only be a case of going a little deeper, for it is scarcely possible that all the seams should be worthless at the same spot, and with the appliances for reaching a depth of 500 or 600 yards on the spot, 100 yards or so more is no great matter. To what has been already specified we must add the coal measures beneath the magnesimn limestone, and other newer formations. I think we have every reason to believe that there is at least as much hidden below more recent formations as is exposed at the surface. A deep boring now in progress at Searle, between Lincoln and Newark, has reached between the Permian rocks a sandstone which there seems good reason to think is carboniferous; the statement that it is a coal measure sandstone is palpably premature, but the presence of rocks belonging to any part of the carboniferous groups so far to the east is an earnest of a considerable extension of the coal measures in the same direction. When we take into account the comparatively small extent of the Yorkshire coal field which has been worked over, and the large area which is yet untouched, I think we may fairly look upon this district, taken as a whole, as virgin ground, destined now that some of our chief coal fields are approaching exhaustion, and nearly all have been largely drawn upon, to be one of the main reservoirs from which the country will have to obtain its supplies of fuel. It is worth notice that its central position makes it singularly well fitted to play this part."

Mr. J. T. SMITH (Barrow) said the discovery of excellent coking seams in Yorkshire was a matter of the utmost importance. It had been a very hazardous undertaking to sink pits 500 yards deep to prove coals. At Worsborough, however, there had been proved four seams of coal, three of excellent quality and one moderate, of an aggregate thickness of 20 feet, and the sections of all the measures were far better than he had ever seen them in the beds worked on the crop in the immediate neighbourhood. The fact was now established that in the neighbourhood of Barnsley there was a new coalfield of 13,000 acres, and 500 yards in depth, containing four workable seams, each nearly 5 feet in thickness. (Hear, hear.)

In reply to a question by Mr. E. A. Cowper, of Westminster, as to boring, Mr. A. BROGDEN, M.P., said sometimes good specimens of coal were drawn by means of tools such as the Diamond borer, but unfortunately sometimes the specimens were not of a satisfactory character. The more recent appliances of boring, with anything like moderate depths, such as 700 or 800 yards, were large tools giving a section of something like 5 inches, and in that 5 inches of diameter a very fair specimen might be expected to be obtained, perhaps not altogether perfect, but showing the section from the roof to the floor. There were, however, little irregularities if great watchfulness was not exercised on the part of the men in finding out the precise moment when the coal was touched. Of course, when boring for coal much greater care had to be exercised, and the boring had to be at a much slower speed than when boring for other materials. With the more recent appliances a very satisfactory idea of the coal measures could be obtained.

On the motion of the PRESIDENT the discussion was adjourned, and a vote of thanks to Professor Green was passed.

THE NORTH LINCOLNSHIRE IRON FIELD.

Mr. G. DOVE, jun., of Frodingham, read the next paper, which dealt with "the North Lincolnshire Iron Field."—[This paper will be published in next week's Journal.]—In the course of a lengthy discussion which followed, Mr. ADAMSON, of the Hyde Engineering Works, spoke of his own extended experience in connection with the Lincolnshire iron trade, and declared that if the limestone could only be separated from the iron ore Lincolnshire would hold its own under any circumstances of trade.

Mr. I. L. BELL, M.P., said he did not know of an instance where a close-top furnace worked more advantageously than an open-top furnace. He further pointed out that the analysis of a coke was not of itself a sufficient indication of its value in the blast furnace. They might have a coke chemically pure, and yet possessed of certain qualities which rendered it unfit for using as economically as other coke, having perhaps a less pure chemical composition, but from other considerations infinitely better adapted to the purposes.

The PRESIDENT asked Mr. Adamson why he had not worked ironstone more cheaply in the Lincolnshire district?

Mr. ADAMSON, in reply, said he was sorry to say it had been worked with a disregard to selection, or to any scientific deduction. Having the power to produce cheap iron was not in the hands of the ironmaster, but of the lessor, who took it for granted that he had a right to do as he liked. He (Mr. Adamson) might, in fact, says, "'The earth is the Lord's, and the fulness thereof,' except Frodingham, which belong to Mr. Rowland Winn." (Much laughter.)

Mr. CLAYE (Derby) said he had a large interest in the Frodingham iron field, and could corroborate all that Mr. Adamson had said, and he did not see that an alteration could be effected.

The PRESIDENT: A facetious friend of mine, in coming into the hall, said, "Please remember that this is a civil court." (Laughter.)

Mr. CLAYE: I wish to be civil, Mr. President, and I can corroborate what Mr. Adamson says. (Renewed laughter.)

Mr. RILEY, Mr. SAMUELSON, M.P., and Mr. ROSEBY continued the discussion, and, after Mr. DOVE had replied, the PRESIDENT offered a few remarks, and the discussion was adjourned. A vote of tanks to Mr. Dove was passed.

TECHNICAL EDUCATION IN THE IRON TRADE.

The following paper on this important subject was read by Mr. JOHN JONES, secretary to the Institute:—

In this communication it is not my intention to dwell at any length upon the importance of what is termed technical education. This importance is now very generally recognised throughout this country, but, in respect to the means available for imparting special scientific instruction bearing upon the various arts and industries, it must be admitted that England does not compare at all favourably with the many other countries which are in close competition with our own manufacturers in the markets of the world. The great hindrance, however, that has hitherto been experienced in dealing with technical education has been the unsatisfactory condition of primary education in England. It is useless to expect a flourishing fruit tree by engrafting upon a weak and worthless stock; and as it is only within the last six years that any successful attempt has been made to establish a broad system of elementary education, we can hardly look for tangible results, as far as the mass of the population is concerned, until the present rising generation grows up. But there can be no doubt that the educational machinery that was available and in operation previous to the passing of the more recent Acts was the means of affording a good elementary education along certain lines; its defect was that it did not grapple with the whole field of ignorance. It is to be hoped that this difficulty is now in a fair way of being removed. Turning now to what has been done in providing facilities for imparting technical knowledge, we must not overlook the fact that this matter has by no means been lost sight of or neglected; but we have not yet got so far as several other countries have done. The establishment of the School of Mines in Jermyn-street has been productive of some good results, but it has not accomplished anything like what was originally expected from it. Mining schools have been tried in several of the colliery and mining districts, and have been useful in their way. The Science and Art Department at South Kensington has, however, been successful in organising an excellent system for imparting a knowledge of elementary science. In order to effect this, it has mainly taken advantage of the teaching staff of the primary schools, and by offering inducements in the shape of money grants according to results, the foundation has already been laid upon which a good superstructure ought to be built. But, as a general rule, the South Kensington system cannot advance matters beyond the first or elementary stage. It has the effect of imparting the rudiments of technical and scientific knowledge, and sifts out those whose aptitude and inclination would lead them to pursue their studies, provided suitable facilities existed within easy reach. Such youths or men are the cream of what may be termed the upper and more intelligent industrial class. They have to earn a living, and cannot, therefore, go to a distant place to follow up their studies; but wherever institutions of the right kind exist they readily avail themselves of the same. It is unfortunate, however, that comparatively few of such institutions have been established, and of those already organised several have not advanced beyond what may be termed the initiative stage, and are, consequently, only able to furnish technical and scientific education in a limited number of departments. It is with a view of pointing out one way at least in which institutions of this character might be very greatly assisted that this paper has been prepared, and this I shall presently proceed to do. But in order to show the intimate bearing of this subject upon the iron and steel industries, it may be remarked that the manufacture of iron and steel is constantly becoming more scientific in its character; and looking at the tendency of things just now, as shown by subjects introduced at this and other meetings of the Iron and Steel Institute, there will be a rapidly increasing demand, not merely for accomplished scientific men to direct operations, but also for a highly intelligent class of workmen to carry out the practical details. Unless such workmen are available the introduction of new processes or appliances is attended with the greatest difficulties, and doubtless owing to this cause many really valuable inventions have been abandoned. It would, however, in my opinion, be useless to attempt to overcome this obstacle to progress by any special means; it is rather to a general spread of higher education that we must look as the agency that will be most effective in raising the workmen to the requisite standard, so that they may be able to second and carry out the instructions of the directing minds. I fully believe that had a suitable class of men been procurable, the results that would have been obtained in connection with mechanical puddling would have been much more satisfactory. I think it is quite unnecessary to say more on this point. I believe it will be generally admitted that it is as desirable to have educated and intelligent workmen in the principal departments of the iron and steel manufacture as it is any of our national industries. It is, therefore, most important that every possible means should be adopted for supplementing and extending the existing arrangements for imparting what we term technical knowledge, and it so happens that there is one way in which I venture to think substantial aid might be rendered in this respect.

It will be remembered that when the International Exhibiton of 1851 was being organised, the principal towns in the country were asked to guarantee considerable sums in case the exhibition should not be a financial success. This appeal was heartily responded to, though, fortunately, it was not necessary to fall back upon this resource; on the contrary, the commissioners found themselves in possession of a surplus of about 186,000*l.* when the affair was over. This money they judiciously invested in the purchase of the Kensington Gore Estate, which proved an exceedingly profitable speculation. It is estimated that if the Commissioners' income from ground rents were capitalised, and the land still available for building purposes sold, a sum would be realised representing several times the original purchase money. An announcement has been recently made to the effect that the commissioners propose to expend 100,000*l.* in providing a scientific library at South Kensington, and in creating scholarships in connection with the Science and Art Department. Now, if this plan be adopted, the benefits will be almost totally confined to London, where great facilities already exist for obtaining free access to any book in the language, and the creation of a limited number of scholarships would not have much influence in promoting technical education generally. But it does not seem just and equitable to concentrate the contemplated expenditure in London. The fund out of which the requisite money is to come belongs to the country, and should be, if possible, applied in such a manner as to render it useful over an extended area. The property held by the Commissioners should in equity be dealt with in some degree with reference to the guarantees that were given by the leading towns in order to render the exhibition safe, and which were absolutely requisite before the matter could be undertaken. This view has already been strongly advocated by several provincial newspapers representing populous industrial centres, and I would strongly urge that the influence of the Iron and Steel Institute may be brought to bear, in order to obtain a general as distinguished from a metropolitan application of the fund now under consideration. I would not suggest that any attempt should be made to apply it in anything like strict proportion to the amount originally guaranteed by various towns. I maintain that the Commissioners would be carrying out the spirit in which a fund of this should be administered if they were to render assistance within certain limits to the science colleges and institutions of a similar character that have been established in the principal manufacturing and industrial districts, and offering aid to new institutions a great impetus would be given to the foundation of other colleges in suitable localities. If the commissioners could be induced to capitalise their property, and apply it in the manner indicated, the beneficial results would be vastly increased, but with the 100,000*l.* which they now propose to spend most valuable aid might be rendered where at present it is most urgently needed. Nor would this plan involve the abandonment of the proposal to establish science scholarships, only these would be best localised and made tenable at the provincial colleges and institutions. But the question arises—In what form should this aid be given to the local science colleges? It would evidently be injudicious to make a grant in money to go towards building or furnishing funds. The assistance should be rather in the form of a loan, so that the property could revert to the Commissioners in case any particular institution ceased to exist or to fulfil the conditions under which the assistance was first given. For instance, to take the newly-established science college in Leeds, there can be no doubt that the loan of a library of scientific books, representing (say) 10,000*l.*, would be a most valuable aid, and would tend very much to draw students, and to render the lectures of the professors more effective. The institution of a few scholarships would also be of great service, and in this manner local interest would be stimulated. Should the college at any future time cease to exist, the library would simply revert to the commissioners, and they could make it available elsewhere. This is not the place to attempt the discussion of details; I can only indicate the principle which I consider might be most advantageously adopted. Nor is it necessary that I should specially refer to suitable institutions that already exist, and which fall at once within the category that ought to be entitled to participate in the benefits which might arise from the provincial application of the commissioners' fund. It is sufficient to say that such institutions are already established in connection with the principal iron manufacturing districts, and, doubtless, where nothing of the kind has yet been provided the want would be speedily supplied.

The PRESIDENT having invited the members of Parliament present to state their views on the paper, Mr. BARRAN, M.P. for Leeds, said the question of technical education had for some time engaged the attention of those of them who had taken an interest in general education, and as the result they had established a College of Science in Leeds. That college consisted of four or five departments—namely, physical science, chemistry, geology, engineering, and biology. With the exception of the last those were all questions which largely affected the interests which they represented. He was quite sure, from the papers which had been read, it was necessary that chemistry, geology, and engineering should be thoroughly studied in our large centres of population, and he thought the facts which had been stated with regard to the necessity of chemical knowledge were such as to justify districts where colleges had been established in asking that the funds that had accrued and accumulated from the holding of the Exhibition of 1851 should be used in the promotion of science in the districts where scientific instruction was most likely to be useful, and therefore hoped that the funds in the hands of the Commissioners of the Exhibition of 1851 might not all be used for the purpose of establishing institutions in London. The Yorkshire College of Science had been established for the purpose of imparting scientific instruction to young men of all classes of the community. A remark had been made as to the necessity of having well-trained men to superintend the works engaged in the manufacture of iron and steel. He believed it was necessary to have the sons of employers well trained for that purpose—(hear, hear)—and he thought it was necessary that institutions of that kind should offer facilities to young men to prepare themselves for carrying on those works with the requisite practical knowledge, so that they might not be entirely dependent upon those whom they employed. He thought that the welfare of the nation depended upon the development of the knowledge of the sons of our rich men, as well as on the instruction of the sons of toil. The instruction of the two in combination was likely to be productive of benefit to the country at large. Therefore it was that if their young men could be taught physical science, engineering, and geology in localities where the large works existed, it would be of great advantage to them and to the industries with which they were connected. It was better not to go into detail as to the way in which the matter might be dealt with by the Commissioners. He would, however, say for the Yorkshire College of Science that it was worthy of the support that might be given to it by any institution. For the two years it had been established it had so increased that now they had above 300 students, and he might claim for the college a success not only in point of numbers but in point of efficiency second to no other similar institution within the same time. (Cheers.)

Mr. SAMUELSON, M.P. for Banbury, considered that the proposal made in the paper was a just one. There was no doubt that the funds in the hands of the Commissioners of the Exhibition of 1851 arose from the contributions of the country at large, and unless it could be shown that the country at large would be more benefited by a central institution in London than by the dispersion of the means over the provinces, then the provinces had a fair claim to be considered, as they had not yet been considered by the commissioners. (Applause.) He could not think that the administration of funds in the charge of the commissioners would be altogether what the country had a right to expect from them; and unless strong measures were taken in order to bring about a change, he was afraid they must not expect justice in London. With regard to the scientific instruction of working men, he believed it was useless to expect it until primary education had made greater progress. Colleges like those in Leeds, Newcastle, and Manchester would no doubt be of service for the education of managers, and also for the education of the sons of employers, as Mr. Barran had pointed out; but until the general education of the working classes was better cared for he believed it was almost in vain to expect to impart to them any technical training whatever. (Applause.)

Mr. BROGDEN, M.P., did not apprehend any great difficulty in getting a portion of the funds referred to applied to scientific instruction if the country would only speak out and say that the money should be so applied.

Mr. BELL, M.P., complained of the action of the commissioners with regard to the funds accruing from the Exhibition of 1851. So far as the iron trade was concerned, he had always maintained that the position of this country with reference to the manufacture of iron defied all competition and all comparison. Every great discovery connected with the iron trade, almost without exception, had been the result of British enterprise and British skill, and he had no doubt whatever that England, with her natural resources, and the skill and indomitable pluck and courage of her sons, would continue to hold—he was going to say for all time to come—during their own time, and that of their children and grandchildren, the position she had long maintained. (Applause.)

The Institute resumed its sitting on Wednesday forenoon—Mr. MENELAUS presiding. The first subject introduced for consideration was the following resolution, proposed by the president, relative to the paper read by Mr. Jones on the previous day—

"That this meeting of the Iron and Steel Institute request the council to communicate with the Royal Commissioners for the Exhibition of 1851, and to impress upon them the desirability of applying the funds at the disposal of the commissioners in such manner as will afford the means of giving special assistance to provincial science colleges and kindred organisations in preference to expending money upon metropolitan institutions."

Mr. BELL, M.P., seconded the resolution, which was carried unanimously.

WELDING IRON.

Mr. RICHARD HOWSON, engineer, Middlesborough, read a paper on this subject in which he contended that it was possible to obtain a more homogeneous quality of iron by means of piling than by the rolling out of a mass of puddled iron. The author observed that there was an impending change in the manufacture of finished iron, as it was admitted on all hands that machinery would soon entirely supersede hand labour in the puddling process. Along with this conviction there is a current impression that iron will have to be puddled in large masses and not divided into small balls as in the ordinary practice; that the system of piling must be abolished; that piling means welding, and that welding is a mistake, and that homogeneity is the thing to be aimed at. "Now," said Mr. Howson, "when the matter is fairly considered, it becomes evident that the iron rolled from a puddled ball is in no case homogeneous, and that the larger the ball the more herterogeneus it is likely to be. The term homogeneous can only be strictly applied to iron which has been melted, such as the mild steel which is made in Sheffield, containing a low percentage of carbon. When a specimen of material of this class is treated with acid, the surface being first polished, there is usually no appearance of grain, and the action of the acid is slow. On the other hand, a piece of ordinary rolled bar subjected to the same treatment shows a fibre which stands out like whipcord." After defining the term "welding," and pointing out the conditions necessary for properly effecting that process, Mr. Howson described the methods of rolling and welding as practised at some of the leading iron and steel works. He then recapitulated in brief the points he had elaborated in support of his views, and which may be expressed as follows:—First, when two surfaces of wrought-iron in a half melted or viscous state are pressed together, the intervening cinder is expelled, provided it is liquid enough and has a chance of escape, and cohesion results. This constitutes a weld, and if the proper conditions have been fulfilled such a weld would be as sound as any other part of the bar. Secondly, the requisite conditions are seldom, if ever, absolutely fulfilled in practice. When the surfaces to be united have a large area it is impossible to avoid enclosing some small quantity of cinder. The endeavour should be to reduce it to a minimum, and then dilute it by afterworking. Thirdly, shingling a puddled ball is essentially a process of welding, and the term homogeneous is altogether inappliceable to it. Fourthly, the conditions for perfect welding are in no case favourable in a puddled ball, and the difficulty increases with its size. Mr. Howson concluded by observing that he granted that machine puddling would before long entirely supersede hand labour; but the question lay between working on a large scale and on a comparatively small one. The advantages claimed for the former were a saving in fuel, in labour, in waste from crop ends, and in waste from reheating. The extent of such saving, however, depended upon the class of manufacture, and in no case was it very large. "On the other hand," said Mr. Howson, "we have the sacrifice of existing machinery and the cost of erecting new of an expensive class, also an increased liability to loss from the folding up of raw iron and fettling in the puddled ball.

The PRESIDENT announced that he had received, through Mr. I. L. Bell, M.P., an invitation from the directors of the Motala Ironworks, in Sweden, inviting the Institute to visit that country in September next year. It was agreed to leave the matter to the consideration of the members, and that as many as cared to go should give in their names to Mr. Jones on the following day, after which the council would consider whether the number was sufficient to justify the Institute in accepting the invitation.

Mr. TENNANT, M.P., said he would be most happy to co operate with any effort which might be made to obtain for Leeds a share in the funds in the possession of the Commissioners, and which he thought it was fairly entitled to.

Mr. E. H. CARBUTT (Leeds) said that a sum equal to about 100,000*l.* per annum, and an accumulated fund of something like a million and a quarter arose from fees at the Patent Office. Attempts had been made by the Chambers of Commerce and other bodies to induce the Government to give up some of that money for the promotion of technical education. Members of Parliament might rather to some extent be themselves blamed for not having secured this desirable end than be allowed to put all blame on the Exhibition Commissioners. (A laugh, and hear, hear.)

The PRESIDENT said that if they had obtained no other benefit they had at least secured the services of five or six influential Members of Parliament. (A laugh, and Hear, hear.) He moved a vote of thanks to Mr. Jones for his able paper, which had produced so valuable and spirited a discussion. (Applause.)

The motion was unanimously passed, and the first session of the Institute concluded. The members then adjourned to the Victoria Hall, where the Local Committee (of which Mr. J. Barber and Mr. J. Whitham are the hon. secretaries) entertained them at luncheon, provided by Mr. A. Powolny, of Bond street. No toasts were proposed, but during luncheon the company had the pleasure of hearing an excellent selection of music played on the organ by Dr. Sparks and Mr. A. Briggs, one of his pupils. At one end of the hall was placed a small but interesting exhibition of diagrams and objects of interest in connection with the iron and steel trades.

ON PUDDLING IN ORDINARY AND ROTARY FURNACES.

Mr. HENRY KIRK, of Workington, read a paper on this important subject, in which he treated of puddling in the single-hand furnace, and in Danks', Spencer's, and Crampton's, comparing them and their products with each other, pointing out some of the causes of the difference observed between them, and indicating what researches were necessary to ensure success in rotary puddling. He said it was felt that experience in the working of the ordinary furnace was of very little use in dealing with the rotary, and that as it had taken some generations of practical experience almost unaided by science to bring the ordinary puddling to its present state of efficiency, so it would take many years of such experience to bring the rotary system to perfection unless science was brought to bear upon it as fully as possible. When the Commission was sent out to America to report on the Danks furnace, he was of opinion that, not only the iron, but the fettling, coal, and even the puddling cinder to be used in the first heats of each kind, should be taken out with them, but the iron and fettling only were sent, by which imperfect conditions for the investigation were created, and these were maintained throughout. The reports were of a glowing description, but most, if not all, the attempts since made to carry out the same system in this country had led to disappointment and loss. Proceeding to the consideration of the Danks furnace and its products as brought out by the reports of the American Commissioners, he spoke mainly of the removal of phosphorus. The opinion amongst chemists generally was that all the phosphorus passed into the cinder. If so, and if all the cinder used by the Commissioners had been made from their own iron, the 494 lbs. of phosphoric acid estimated to have been removed during the five consecutive turns worked would have been carried off by 1960 lbs. of cinder, producing 25 per cent. of phosphoric acid, but the average analysis of a tap cinder did not reach one-sixth of that. Over the five turns the Commissioners used 3¾ more puddling cinder to the ton of puddled bars than they made, which was plainly of a superior character, and must be classed as fettling. If the 494 lbs. of phosphoric acid were calculated as carried off in the cinder not used over again by the Commissioners, it would give 8¾ per cent., while the phoshoric acid found in the cinder, according to the analyses and weights which were given, was 4·052 per cent., or 46 per cent. of the 494 lbs. If all the phosphoras passed into the cinder there was a deficiency of 5¼ lbs to the ton of puddled bars produced. The silica exhibited a similar result, 47·3 per cent. of it only being found in the refuse cinder. Spencer's was a square furnace. The published analyses showed a wonderful elimination of phosphorus, less than one-fourth being left in the iron, but there was scarcely any cinder in the puddled bar, while the Danks', owing to the imperfection of the machinery, had about 5 per cent. of cinder. There was a large quantity of phosphoric acid in the cinder (8 63 per cent.), so that there was less mystery as to what had become of the phosphorus. Mr. Crampton's furnace used, according to the weight of charge, from four to six times as much fettling as an ordinary furnace, and purified the iron to the same extent, hence its extraordinary quality. It was probable that the bulk of the silica in the coal found its way into the cinder. The puddling difficulty was only slumbering at present because trade was bad, and would inevitably crop up again when times improved. To make such researches now as were likely to be of the highest value in combating it, whether in the rotary or in the ordinary furnace, would only be taking time by the forelock.

Mr. G. GILKES (Middlesborough) said it so happened that the firm with which he was connected had come to the front in rotary puddling; and, as was well known to many gentlemen present, had erected an experimental furnace under the especial care of Mr. Danks himself. When they had made it, as they thought, a success, they opened it to the whole trade, and many gentlemen came to see it at work. At first it really seemed to be a success, but there were unfavourable circumstances in the after working of it which they did not then know of, and which the gentlemen who went to America were also ignorant of. Danks' furnace, when worked in America, was not worked day and night, and at first his firm only worked their furnace occasionally as an experimental furnace. They thereby failed to get the knowledge they ought to had of it, because they did not put it under the mechanical conditions which a furnace to be worked commercially was put under, and when they began to work it day and night they found one mechanical difficulty arise after another, each one having to be met and overcome. Those difficulties had been met, and they were arriving at a perfect mechanical arrangement of the Danks furnace. (Hear, hear). They were working it very well now, more successfully than they ever did work it, and were producing homogeneous rails which he would not like to say were equal to steel, but

which he would not say were anything short of that. (Laughter). For them it had really been a continued fight to overcome the purely mechanical difficulties of a new apparatus. The quality of the iron produced by rotary puddling was undoubtedly superior to that produced by the ordinary mode, and they had not found in all their experience any variation of that. (Hear, hear.) They could produce by rotary puddling a class of iron very akin to steel, if not steel itself; and out of that would come a class of rail iron which would be steel. (Applause).

Mr. H. C. BRIGGS (Middlesborough) said the company with which he was connected had been experimenting with various furnaces, including Danks's and Crampton's. They had not got beyond the preliminary process of making iron into puddle bars, and so far their puddle bars had not been as regular in quality as they could have wished, but they hoped by further experience to make a considerable advance in that respect. He thought that there was very much in the statements made as to the difficulties of making homogeneous iron. The experience of his firm had proved that to be so. Still he believed that with some further experiments they would be able to get over a good many difficulties, and be able to make large masses of iron, and to roll them into puddle bars of superior quality. (Hear, hear.)

Mr. J. HEAD (Middlesborough) said his firm started four of their rotary puddling-furnaces some few weeks ago, and had gone on working pretty steadily with about three out of the four. They had, of course, a great many difficulties to contend with, difficulties mainly connected with the mechanical appliances, and all their energies had to be devoted to getting over them. He thought they were now pretty well overcome, and that they were at liberty to deal with the metallurgical difficulties. As yet they were charging coal pig, which, of course, increased the time occupied in working. The consumption of coal seemed to be pretty much according to the time, so much per hour being used, and the same might be said to a large extent of the fettling. They had also only been working one shift, and had yet to learn what where the conditions of continuous working. By working coal-pig only by day, and in small quantities, it was easy to see that their success, commercially speaking, was not very great, and he thought they ought to adopt the double shift and to charge molten iron. The double shift and molten iron were to his mind a *sine qua non* in this matter. He quite agreed that it was a misnomer to call puddled iron homogeneous; it was really a mass of small pieces welded together. (Hear, hear.) His experience led him to believe that the puddle bar system was not going to be got rid of quite so easily as they at one time hoped. (Hear, hear.)

Mr. R. HEATH, M.P., said it was well known to those members of the Institute who visited his works last year that he had Danks puddling-furnace at work. Unlike Mr. Gilkes, they had had none of the mechanical difficulties in construction which had been spoken of, and he did not think that they had had to make a single alteration in the furnaces from the time they were put up until now. (Applause.) All he could say of Danks puddler was this, that he had produced with it a most excellent quality of iron. If they asked him whether the furnace was one which was calculated to puddle iron and to make rails at the present price they were selling, he would certainly have to answer "No," and he could not say that there was any puddler that was so qualified. (Loud laughter.) He could, however, produce plates by Danks puddler that would fetch a high price in the market, and leave him very satisfactory profits. (Hear, hear.) Those plates afforded him better profits than was usually the case, and he was perfectly satisfied with them. He quite admitted that it was a most costly process, and he did not see how any ordinary works could be altered to adopt Mr. Danks' plan. He (Mr. Heath) did not attempt that, but erected a new works. It was true that they did not not produce the best iron at first, but he believed that that was entirely owing to the great anxiety of Mr. Danks' son to produce a better yield out of the furnace. After the furnace passed into the charge of the manager of the works, and they altered their fettling, they immediately produced a better class of iron.

The PRESIDENT said that as the experimenters had had their say, he would like the inventors to have a turn. (Hear, hear.) He called on Mr. Crampton.

Mr. J. R. CRAMPTON (London) said he was at a loss to understand the principle on which Mr. Howson went. It was impossible at Woolwich to make a perfectly sound piece of iron by welding together. And speaking of plates, what did they find in Leeds but this, that they made their plates with the fewest possible welds? He was convinced from what he had seen that it would in the end come to be generally understood that it was best to get mechanical appliances that would deal with masses very rapidly, so as to finish them while hot, for in that way only could they obtain the best quality of work. That could not be obtained by welding. The whole thing came to this:—Were they to go on extending the system of building up masses, or were they to direct their attention to making in the solid mass? His impression was that making in the solid mass would in the end be the more economical. (Applause.)

Mr. SPENCER, speaking of making iron in the mass as compared with making it in small quantities, said the secret of making a piece of iron from a large mass lay in the fact that it must be dealt with near the puddling furnace. If they attended to this, and then applied proper power to do the work quickly, bringing the parts together at the welding point, they would have a homogeneous mass.

Mr. JAMES KITSON, jun. (Leeds), said that his experience had shown that it was possible to make iron practically homogeneous by, in the first place, using a superior quality of pig to begin with, and fuel to work it with, and to put "work" into it. They had to check their puddlers at every heat. In the Yorkshire process some portions of the puddled iron was broken at every heat, and examined before used for plates or tires, or any description of iron. It was then hammered three or six times, according to the size of the piece of iron that had to be dealt with. He thought it was quite possible to produce by mechanical puddling a very high quality of iron, and one absolutely sound, but it could not be done by starting with a very low quality of material. They could not expect to make a high quality of material out of a poor quality of pig. He paid a high compliment to the Cleveland iron trade for trying to solve the puddling problem, and said that when the trade improved they would, no doubt, be able to carry out their researches more fully, when there was some margin in price upon which they could work.

Mr. E. WILLIAMS (Middlesborough) said he would not go so far as to say that there was no iron so bad that they could not produce from it wrought iron of the best quality, but he thought the inferiority would have to be very considerable before they would utterly fail in that if they set about it in the right way. Wrought iron was good if the pig was properly puddled. Ever since he had known the trade puddling had been its great difficulty, and they had been trying to make the process easier—in short, not to puddle by hand. The effect had been that they had been oblized to discard as bad many kinds of iron, which were just as suitable as others if they were puddled as they ought to be. To remedy this state of things, and to bring iron generally into use, some kind of mechanical puddling was necessary. He agreed with Mr. Howson as to the extreme difficulty of making a practically homogeneous iron from very large masses of metal, and he was inclined to think that it would be found best to puddle comparatively small heats, and where great weight was wanting to obtain it by welding. Coming to the question of rails, they must in the end come to make them from ingots. To expect that they could have layers close to the heads of rails running through the whole length of the rails and yet have them solidly welded was to expect that which was impossible and which had never yet been obtained. (Hear, hear.)

Mr. J. E. GOLDWYER (Bowling Ironworks) said he had intended, before the remarks of Mr. Williams, to ask whether the rotary puddling would get over the difficulty of hollow places, which became blisters on subsequently working the plates. The great difficulty with the Yorkshire iron was not so much the surface blemishes as to get the plate perfectly sound throughout, and in order to ensure this they had to try every 3 square inches of the plate by tapping with a hammer to sound it.

Mr. G. J. SNELUS (Workington) replied to certain points raised by Mr. Kirk in his paper, observing that, as one of the Commissioners on the Danks furnace, he would pledge his honour as to the correctness of the figures in the Commissioners' report. Referring to Mr. Howson's paper, he said he did not believe in obtaining perfect welds with many parts. Large blooms were correct. They might give a rail some slight surface defect, but piled rails were very liable to internal defects.

Mr. BELL, M.P., said it was a fact that iron rails made from piled iron properly treated had been laid down on a portion of the North-Eastern Railway where the traffic was the heaviest, and had lasted longer than any steel rails they had been in the habit of using. (Hear, hear, and applause.) He ventured to doubt whether sand was essential to welding if the iron was properly heated, and this was confirmed by the experience of one of the best welders in the country, whom he had questioned on the subject that morning at Monkbridge Ironworks. He agreed with one of the previous speakers as to the necessity for a revision of the nomenclature of the articles of their manufacture. Of such consequence was this considered by the group of judges over whom he had the honour to preside at Philadelphia, that they took upon themselves—although, perhaps, it was a little beyond their strict province—to recommend a revision in the nomenclature of iron and steel. Amongst the judges were representatives of every ironmaking nation in the world, and, therefore, also of France and Germany. Their recommendation was made to the Centennial Commissioners, and through them to the world at large. One reason why they made it was that at the present time there were some serious lawsuits pending in the United States as to what constituted a steel rail. If they sent to a so-called Bessemer steelworks, and got what they accepted as a steel rail, they would find that it greatly differed from a steel rail which they got elsewhere. The two might differ both chemically and in mechanical powers of resistance. The judges, therefore, agreed upon a system of nomenclature, which would appear in due course, and which he hoped would in due time remove existing difficulties.

On the motion of the PRESIDENT, thanks were voted to the readers of the papers, and the further discussion of the subject adjourned to next meeting.

In the afternoon the members visited various works that were open for inspection in Leeds and its neighbourhood.

[To be continued in next week's Mining Journal.]

MINERS' WAGES.—Owing to the severe depression of trade throughout the country, in almost every branch of industry, a general reduction of wages is but a natural result, and we are sorry to have to record the fact that in many counties it is not so much a question of wages as that of obtaining any employment whatever. The wages, for instance, in many collieries have been already reduced some 50, 60, and as much, it is even said, as 70 per cent., and a further reduction still going on. We have been collecting some information, and find that in North and South Wales, as well as in the midland and northern counties, there are thousands of hands out of employment, and many undertakings entirely abandoned. After the extraordinary high rate of wages which at one time was unfortunately attained, much hardship is now being felt by the general reduction at present going on, and which must of necessity still go on. Miners and others, however, must bear with the times. If shareholders press on directors, and directors on managers, miners must acknowledge the necessity of curtailing expenses and a general reduction in wages. We regret to hear of the depressed state of mining in Cornwall, where the miners' wages are now reduced to about 15s. or 16s. a week, and that there are so many men out of employment. A rise in copper, tin, and lead next year would be a great boon, and especially for this county, and we are not without hope that this may come to pass. Many miners who left for America and elsewhere during the last two or three years are now returning to our shores, and this can only add to a further depression of the wages question. We long ago, it will be remembered, pointed out the folly of unions and the strikes caused thereby, and the mischief brought about by leaders and ill-advisers of the miners, and it is not too much to say that but for these so-called friendly advisers the general state of wages and trade of the country would not be in its present state of unprecedentedly ruinous depression. Do away with unions and strikes, and our country will most assuredly again become prosperous. Depend upon it, the best miner's friend is his employer.

THE CLEMENTINA LEAD MINING COMPANY (LIMITED).

This mine, held under lease for 21 years from Lady Willoughby d'Eresby, is that referred to by Mr. Watson in his letter in the *Mining Journal* of Sept. 2; and as it was offered without any premium or promotion money whatever, to give the public an opportunity, through the Journal, of joining in a first-class speculation at original cost, it may be interesting to mention that the shares were all taken up, the purchase completed, and operations commenced at the mine last week, or in about a fortnight from the time the letter appeared. Some of the gentlemen who have joined never held shares in a lead mine before.

The mine in question, though only 25 fms. deep below adit, has made large returns of lead. The 15 fm. level went through ore ground for 50 fms. long. The late company only drove the 25 fm. level a little over 20 fms., and got 1660*l.* worth of ore from the back, leaving a good lode in the bottom. In this drivage an east and west lode crossed the level, worth 3 tons of lead per fathom.

The shaft will now be sunk at a small cost another 10 fathoms under this ore ground to open out another level, and the 25 fm. level end will be continued under the ore ground in the 15. The cost of getting down to the 35 is estimated at from 200*l.* to 300*l.* The company start with a capital of 2000*l.*, and it is expected returns of lead will be made even before the next level is reached.

The shares were offered to the public at a price less by 10,000*l.* than the mine stood at in the market during more active times a few years ago, but when the prospects were no better than they are now; and no doubt those who have thus come forward to take up a *bona fide* good concern will reap their reward in good premiums and dividends.

We understand that a very influential board of directors has been formed, and the secretary is Mr. Chas. Brougham Parry, St. Michael's House, Cornhill, E.C.

LEAD MINING IN SHROPSHIRE.

The prosperous condition of lead mining in Wales, Shropshire, and the Isle of Man, notwithstanding the commercial depression generally prevailing, has frequently been noticed in the *Mining Journal* during the past few months, and from a prospectus in another column it will be seen that advantage is being taken of the position of affairs to offer to capitalists an opportunity of engaging in mining enterprise in one of those districts. The metallic mining district of Shropshire forms a portion of the great Silurian basin of Central Wales. It is limited in extent, covering only about 70 square miles of ground, but has always been remarkable for the extreme richness of its deposits, and comprises within its limits several mines which have throughout the history of mining industry from the earliest records to the present day contributed more to the wealth of the country than those of any other district of like area. Conspicuous among its many rich mines are Snailbeach, Tankerville, and Roman Gravels. The first has been working continuously, and making immense profits for the last hundred years, and may be considered one of the greatest lead mines in the kingdom, for it is pointed out that although a few years ago Minera was a richer mine, and at the present time Van is producing more lead, yet taking into consideration the permanence of its working, and the length of time it has been making profits, Snailbeach will probably be found in the end to have yielded larger returns than almost any other lead mine in England. Tankerville is at present equally rich, having during the past six years paid upwards of 52,000*l.* in dividends. Roman Gravels, which takes its name from the fact that it was worked by the Roman soldiers in the time of Hadrian, was during the middle ages very productive, and at the present time is one of the principal mines of the district, yielding 200 tons of lead ore per month, and having paid 74,700*l.* in dividends during the past five years. In this mine the influence of the shale bands which cross the lodes is very apparent, for from the earliest workings to the present time the richest pipes of ore have been found in connection with the shale, uniformly following its underlie, and increasing in value as depth is attained. These shale bands are characteristic of the district.

It is upon the Roman vein that the principal workings in Roman Gravels have always been carried on, and towards the north the workings have now reached to within about 10 fathoms of the boundary in a valuable deposit of ore still following the shale in its northerly dip. It is the property outside this northern boundary that is to be worked by the ROMAN BOUNDARY MINE COMPANY, which has just been formed by an influential Liverpool connection, with a capital of 25,000*l.* in shares of 5*l.* each, to purchase it for 9000*l.*, of which 5000*l.* is to be in cash, and the remainder in fully paid shares, the vendors paying all expenses connected with the formation of the company up to the allotment of the shares. There will thus remain 16,000*l.* for working capital, which is considered ample to meet all possible contingencies. The Roman Boundary Mine contains several well known and productive lodes, which run nearly north and south, and are traversed by cross lodes, making within the boundaries of the sett numerous junctions, so much desired by miners. The prospectus mentions that the vendors have gone to considerable expenditure in making explorations, notably by driving a level near where the shaft is proposed to be sunk. The result has been to prove the highly mineralised nature of the ground above the shale band. For the present, however, it is thought best to confine operations to sinking the shaft where it is known that the lead lies and will be found. Careful calculations have been made as to the time and money necessary to sink the shaft; it will probably take about 18 months, and cost, with the necessary plant and machinery, about 4000*l.* The sett is about 118 acres in extent, and is held for 21 years at one-twelfth royalty; it has been thoroughly inspected and favourably reported upon by the best mining authorities in the district. Capt. Walter Eddy considers that they have a most valuable piece of mineral ground, and one that does not require a large capital to reach the ore and develope. Capt. Enoch Parry describes the advantages of the property, and recommends an engine-shaft at from 10 to 15 fathoms from the boundary, which would meet the Roman vein at about 100 to 115 fathoms from surface, and afford means of exploring two or three of the other lodes, and he believes when they have accomplished that work they will have opened up one of the most extensive and richest mines in the Shropshire district. Capts. S. Michell and W. P. Harris express similar views, so that the enterprise would appear to be certainly worthy the attention of capitalists which those concerned now ask for.

HINGSTON DOWN.—We have been favoured with a copy of a circular sent to the shareholders in this mine, which we do not hesitate to publish *in extenso*, as showing a desire on the part of those in authority, and the servants of the company, to render such assistance to the adventurers as lays in their power. It is, no doubt, a step in the right direction, and one that will be fully appreciated by the shareholders; and, we unhesitatingly add, an example that might well be followed by the officials of many, if not most, of the mines in the West of England. There is no doubt that our bals are overburdened with agency charges, it being the fashion to keep up a staff which the exigencies of a mine do not require. The monthly salaries (and 13 times in the year) paid to some pursers and agents are excessive, and the depression under which we are suffering does not justify extravagance; but, on the other hand, every exertion to curtail costs, and the dispensing with all unnecessary employees. There is much to be said on this question, and to quote but one instance for the moment. We are informed that at a mine not 100 miles from Gwinear Road Station, there is a purser and three agents, on full pay, to look after eight men, independent of a secretary in London, whose salary is adequate. Perhaps they may relent on reading this circular.

Meetings of Public Companies.

GORSEDDA JUNCTION AND PORTMADOC RAILWAYS.

An ordinary general meeting of shareholders was held yesterday at the offices, Clement's-lane,

Mr. CHARLES BARTON in the chair.

The notice calling the meeting was read by Mr. GEORGE J. GRAY (the secretary). The directors' report was as follows:—

The directors have to report to the shareholders that the Act enabling the company to raise further capital received the Royal Assent on July 13 last. By this Act the company is empowered to raise additional capital to the extent of 10,000*l.*, with the usual further borrowing powers.

As stated in the last report, the line was opened for goods traffic on Sept. 2, 1875, and since that date a fair amount of traffic has been obtained. The directors believe, however, that arrangements are now about being made for the more vigorous working of some of the undertakings on the line of route by which the traffic will be very much increased, and by a report recently made, which the directors have seen, it is estimated that from one quarry alone about 10,000 tons of slates can in a short time be produced annually, the whole of which would, of course, come over the line owned by the company, and the profit on which would not only pay the interest on the debentures, but leave a good balance towards a dividend on the ordinary shares. The directors have also seen a report on another quarry, to work which the original line of this railway was constructed, but at which operations have not yet been resumed, though they believe the property is likely to be worked at an early date. This quarry is also estimated to yield after certain development works have been carried out about 12,000 tons of slabs and slates per annum. The directors desire to call the attention of the shareholders to these facts, as although the amount of traffic named may appear insignificant when compared with those of larger undertakings, yet when the very small percentage of working expenses and the moderate total of the capital account of this company are considered, it will be at once seen that if these anticipations are only partially realised there would from these two sources alone be a fair return on the whole capital of the company. Other sources of traffic are, however, being opened up, and the directors confidently believe that the line will be the means of speedily developing the whole of the district through which it runs.

The directors much regret that it should have been necessary to apply for further capital powers, as they have been anxious to keep down the capital account to as low a point as possible. It is absolutely essential, however, that additional capital should be at once raised to meet liabilities in respect of the balance due for land, and to discharge the remaining claims against the company. For these purposes, and for the complete equipment of the line, and the construction of the 1¼ mile of branch railway not yet made, it will be necessary to raise further capital to the extent of 6000*l.* or 7000*l.*; even with this addition the total capital of the company will be less than 34,000*l.* At the conclusion of the ordinary general meeting, therefore, a special general meeting will, in accordance with the Companies Clauses Act, 1863, be held to sanction the creation of the further capital authorised by the Act recently passed, and also to determine as to the mode in which it shall be issued. The directors incline to the belief that the mode of raising the additional capital which will best commend itself to the shareholders is by the issue of perpetual preference shares, bearing interest at the rate of 5 per cent. per annum, but they desire to consult the proprietary on this subject.

From the accompanying statement of accounts to June 30 last it will be seen that up to that date 29,338*l.* 19s. 9d. had been expended on capital account. The directors earnestly beg the assistance and co-operation of each shareholder in the raising of the further capital needed, believing that if the required amount be provided success will attend the undertaking. James Stewart, Esq., the chairman of the company, retires from the board by rotation. The directors regret to have to announce the loss by death in April last of their colleague Thomas Harvey, Esq., and there is consequently a vacancy at the board. Under the Act recently passed the company have power to increase the number of directors up to seven.

The CHAIRMAN moved the adoption of the report, which was seconded by the Rev. J. H. SHORT, and carried.

In answer to Mr. A. Jones, the CHAIRMAN said that the increased capital was necessary for the further extension of the line to the Gorsedda Quarry, and to meet sundry other expenses. No doubt the line had cost more than was originally estimated, and the construction had also occupied a longer time; but the present board were in no way responsible for that, as they had come into office after the contract for the construction of the line was entered into. The principal miscalculation was in connection with the land.

In answer to a further question, Mr. GRAY said that the 1¼ mile which still remained to be finished was not part of the original plan. Up to the present time, the traffic over the portion which had been opened had not been quite so satisfactory as had been anticipated, but they might expect better results in the future.

On the motion of the CHAIRMAN, seconded by Mr. LOGAN, the retiring director, Mr. J. Stewart, was re-elected. The auditor was re elected, and five guineas per annum awarded as remuneration.

The meeting was then made special, and on the motion of the CHAIRMAN, seconded by the Rev. J. H. SHORT, the following special resolution was passed: "The meeting hereby sanctions, for the purpose of raising additional capital not exceeding in the whole the sum of 10,000*l.*, as authorised by the Gorsedda Junction and Portmadoc Railways Act, 1876, the creation and issue by the company, at not less than 8*l.* per share, of 1000 new shares of 10*l.* each, with a fixed preferential dividend of 5*l.* per cent. per annum, and every holder of shares created and issued in pursuance of this resolution shall be entitled to vote in respect of such shares in the same manner, and to all intents and purposes, as if no preferential dividend were assigned to the same." The resolution was put and carried.

The CHAIRMAN stated that although power was taken to raise 10,000*l.*, no more than was absolutely necessary would be raised, and he hoped that the shareholders would now come forward and provide the sum required.

HINGSTON DOWN CONSOLS.—At a meeting of the board of directors, held at the office of the company, this day (Sept. 19), a report by Capt. James Richards, the manager, was read, from which it appears that, in consequence of the falling off in the value of the ends and stopes, together with the low price of copper ore, the returns cannot be kept up; that a monthly loss is being incurred, and that it is necessary to curtail the expenditure, and to confine operations for the time to the most promising points of exploration. By the temporary alterations in the working of the mine the costs will be reduced to about 370*l.* per month, and, as the returns for the same period are estimated at 220*l.*, the actual loss to the company will be about 150*l.* per month. To provide the necessary funds to meet the requirements of the mine, and to maintain the financial position of the company, the directors, in conformity with the powers vested in them by the Articles of Association, have made a call of 1s. per share upon the members of the company, payable on or before Oct. 7 next, which they hope, with a sale of copper ore monthly, will be ample to meet any deficiency pending an improvement or a discovery in the progress of development and an advance in the standard. To assist as far as practicable in the general reduction of the expenses your directors have mutually agreed to forego half the sum voted to them at the last general meeting; the agents and the secretary have voluntarily consented to reduce their salaries, thus effecting a saving to the company in the aggregate of 195*l.* per annum. An application having been made to the Duchy of Cornwall for a reduction of dues, your directors hope shortly to receive a satisfactory reply thereto. Your directors will continue to use every exertion on behalf of the members, and they trust that they may be able shortly to announce a considerable improvement in the position of the mine.—T. B. LAWS, Secretary.

[For remainder of Meetings see to-day's Supplement.]

CAPITAL, AND ITS EMPLOYMENT.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—The "even tenour of my way" in working out the solution of the problem suggested by the above title has been diverted by the announcement of a new company having made its appearance, a company possessing a property so exceptional in its character that I propose to devote this week's communication to its consideration of its merits, and to estimating the prospects of its success. I allude to LEAD HILLS, an undertaking formed to purchase and work the well known lead mining property in what is termed the "southern uplands" of Scotland. The history of this enterprise, extending over a period of over 600 years, is alive full of interest to the archæologist as it is to the investor of to-day. From the earliest records that history can point to the neighbourhood of LEAD HILLS has been proverbial for its richness in metals, but no absolute details can be found, except that it was known as "God's Treasure House." In 1239, however, we find that a suit was raised by Patrick, Abbot of Newbattle, against James, Lord Hamilton for the spoilation of 1000 tons of lead ore, which he had carried away from one of the mines in the district, and which amount Lord Hamilton was ordered to restore. Various grants were made from time to time of the property, until in 1578 we find that one Foulis, who was designated as the "most enterprising adventurer of these times," appeared on the scene, and after working the mines for some few years, and finding his exertions very profitable, arranged in 1593 to purchase these lands, and a grant was made to him in that year by James VI. This Foulis died in 1611, possessed of large estates, and his neice, who subsequently succeeded to the LEAD HILLS estate, having married one James Hope, afterwards Sir James Hope, we find a grant of the mines to other properties ratified by Act of Parliament in 1641 in their favour. In that year the charter "was confirmed in fee," and in 1683 Charles Hope, who had been created a peer, was served heir to his father in the lands of Crawford Mine, Friar Mine, &c., which were all united in the Barony of Hopetoun, to which noble house the property has ever since belonged.

Meanwhile the riches of the estate were not allowed to lie dormant. After being successfully worked by the Hopetouns we find that from 1747 two or three portions were leased and worked by various companies. The Lead Hills Mining Company having after various lawsuits obtained possession of the entire mining field in 1861, proceeded to open out the rich treasures of the earth in a very different manner to that which had hitherto been practised. So great is the value of the lead that a competent authority has declared that "it would suffice to pave its surface with gold guineas set on edge." So great is the extent of the property that the mining field extends over 10 square miles, although at the present the principal workings are within four square miles, in which there are upwards of 40 veins, in some of which 6 ft. wide of solid galena had been met with, whilst in more than one a solid mass varying from 10 to 14 ft. in width had been found. These are a few examples of what has been ascertained to exist in the mine. The means of working and raising the ore is not less marvellous in its dimensions. It is not only complete with the most modern machinery, consisting of pumping engines, washing-floors, &c., but as water power alone is used, even these are worked in the most inexpensive manner. To do this the property contains some immense reservoirs, one of which contains 80,000,000 gallons of water, the different water-

races from these reservoirs to the works being above eight miles in length. Then there are four hydraulic engines for pumping, one hydraulic engine and four water-wheels for drawing work, one for crushing and dressing the ores, and so on. There is also an underground railway for centralising the work, and in fact every available means which science or skill can suggest have been brought to bear upon the subject of making a really paying concern. Moreover, the whole of the floors where the washing, crushing, and dressing is carried on are covered over so that operations may be carried on independent of the weather all the year round. Space will not allow me to say more in favour of this really marvellous undertaking, but I shall be happy to give any information to all who may communicate with me on the subject.—76, *Old Broad street, London, Sept.* 22. ALFRED E. COOKE.

[For remainder of Original Correspondence see this day's Supplement.]

ECHOES FROM THE MINING MARKET.

A decided change for the better is apparent in mining matters. A more hopeful view appears to be taken of the trade of the country, and we hear it asserted in well-informed circles that the worst of the depression has been seen. If such is the case we may expect a demand speedily to spring up for mining shares, and owing to the extremely low level to which prices have of late dropped a comparatively moderate improvement would cause many to rise considerably. We are sorry, however, we cannot include as yet tin shares in the list. This metal remains very dull, and shares are in a stagnant condition. The result of the Banca sale is being looked forward to with some anxiety. Lead shares would probably be those more immediately benefited by an improvement in trade, although there is plenty of room for advance in copper shares also. In the former an excellent demand has existed for Rookhope, which, owing to the substantial financial position of the company, good prospects of the mines, and low price of the shares (17s. 6d. to 20s., with 30s. fully paid) are in great favour with investors. A good deal of business has also been done in Tankerville, Roman Gravels, Pennerley, Aberdaunant, Glyn, Van Consols, and Llanrwst. Other lead shares have had a fair enquiry although prices generally remain as last quoted.

The event of the week, however, has been the introduction to the market of the long expected Leadhills Mining and Smelting Company, the entire capital of which—120,000*l.*, in 20,000 shares of 6*l.* each fully paid—has been already subscribed. This is the company north of the Tweed to which we made allusion a month or two since, when, however, we were in a position to do little more than hint at its impending establishment. We are now able to give our readers more precise information as to the property, which is of great extent, possessing an area, we believe, of some five square miles.

The Lead Hills are a range of the Southern Highlands of Scotland, situated in the county of Lanark, and possess a peculiar mineralogical history of their own, dating back into the 13th century, when Sir David Lindsay (A.D. 1249) granted a lease to the monks of Newbattle Abbey to search for ore. In the Chamberlain Rolls of 1264 there is an entry of a sum of 42s. in the accounts of the Sheriff of Lanarkshire for conveyance of lead from these mines. In 1467 the Earl of Crawford granted a charter of resignation of the lands conveyed by his ancestors, which included "the mines and lead pit," and during the 15th and 16th centuries various grants were made of the property. Thus in 1593 James VI. leased it to one Thos. Foulis, who appears to have been one of the most spirited mining adventurers of his time, although what with the raids of the fierce Borderers, who stole the lead and robbed the convoys, and the acts of certain enterprising burgesses of Glasgow, who took forcible possession of a large consignment of the coveted metal when on its way to Leith, he had rather a hard time of it. Although the Glasgow burgesses, were ordered by the Courts to make due reparation for their theft, but it does not appear that Foulis obtained any satisfaction from the wandering Borderers. Charles I. granted the property to Dame Anne Foulis, daughter of Robert Foulis, who is said to have been a brother of Thomas, of that ilk, and in 1661 this grant was ratified by Act of Parliament to Dame Elizabeth and her husband, Sir James Hope, of Hopetoun. By this means the property came into the possession of the Hopetoun family, with whom it remains.

Such is a short account of some of the owners in earlier times of the famous Leadhills Mines. We may mention here that an immense amount of gold has been extracted from the property. In 1576 a certain Bevis Bulmer, who in contemporary records is deservedly styled "an ingenious gentleman," and who is also stated to have been the first "to adventure and search for gold and silver mines in Leadhills"—Foulis having searched for lead only—received from the Scotch Government, on the special recommendation of Queen Elizabeth, a patent to explore for the precious metals. In three years he obtained gold to the value of 100,000*l.*, whilst at another time gold to a similar value was also extracted by Germans. In one place pieces of 30 ozs. weight were found. We cannot be far wrong in saying gold to the value of considerably more than a quarter of a million sterling has been extracted from this district.

At one time during the French Revolution, when the demand for lead became very slack, 40,000*l.* worth of metal was lying at Biggar, about half way on the road to Leith, and 40,000*l.* worth also at the latter place waiting for a better market. This came before long, and the proprietors soon found the value of their lead in stock doubled.

In 1747, two district mining companies obtained the Leadhills, but in 1861 the entire mining field was secured by a small body of wealthy adventurers, styled the Leadhills Mining Company. Owing to deaths and trusteeships, the property has now been acquired by the present company; and, from all we can hear, immense as has been the wealth extracted from the famous hills, and long as their mineralogical history has been, the mines are yet in their infancy, and their best history has yet to be written.

In 1868, some two and a half miles of underground railway were opened, which, with cross-cutting, &c., cost over 7000*l.* The projected work, five miles in length, was estimated to cost 45,000*l.* In 1873, the enhancement to the great reservoir—capable now of holding 80,000,000 gallons of water—was raised 5 ft., whilst nine or ten miles of pipes laid down cost 2,000*l.* At the present moment, we believe, the mines are yielding over 200 tons of lead per month; but this quantity will probably soon be largely increased. As will have been surmised, the works are on a most extensive scale, including large smelting works, all the ore being smelted on the mines, and sold at Leith (as of old) as pig lead, worth about 22*l.* per ton. The power is entirely water, which is all sufficient, so the company possess a great advantage in this respect. The reserves of ore are very great, but now that energy and capital will be brought to bear upon the developments, they will doubtless soon be largely increased and good discoveries made. In our next remarks we hope to give some more detailed information as to the workings and bearings of the veins. For the present, it will be sufficient to say that many hands are employed, that the company possess a working capital of 15,000*l.*, and that Capt. Arthur Waters, of Roman Gravels and Tankerville, will be responsible for the practical working of the mines. The company, we may add, has been introduced under substantial auspices, those connected with it being also largely identified with Van, Roman Gravels, and Tankerville, as the introducers of those properties to the mining market. The famous mines of the Duke of Buccleuch, at Wanlockhead, adjoin the property.

Copper shares have been represented by Parys Mountain, Penstruthal, and Devon Consols. The last named are in demand, at 2¼. The other two unchanged, but firm.

In Colliery shares Chapel House have had a fair enquiry. The price has risen to 3¼, 3½. The seam just cut is, we hear, of better quality than that now being worked, and of a better character than anticipated. It will not be worked yet awhile, however, the directors being anxious to concentrate their efforts upon winning the deeper measures. Newport Abercarn, after being in demand, have receded to 3½, 4. Altami maintain their price in a wonderful way, and at 4½ to 5 are not by any means plentiful. Cardiff and Swansea keep very quiet, at 1½ to 2 (*l.* paid), and West Mostyn (preference) at 3 to 4. Cakemore, 2½ to 3; it is proposed, we hear, to issue the unallotted capital. In the present state of the market this would appear a rather difficult operation. In Bilson and Crump there have been several bargains. The shares close about 7¼ to 7¾. Thorp's Gawber Hall are 2½ to 3½; very little is heard of this company now its offices have been removed to Barnsley. Coal is advanced, and is advancing.

In Foreign Mine shares a good deal has been doing. There is an excellent report from Santa Barbara, and the shares have risen to 2, 2¼. Estimated July profit, 730*l.* The last Richmond run, owing to the furnaces being under repair, was but 350 tons, but all the furnaces are now reported to be running. Shares are about 1½, and in demand. Javali, 8s. to 10s.; a slight fall has taken place here. Pestarena, 4s. 6d. to 5s. 6d., and also lower. Chontales, 5s. to 6s. Sweetland Creek, 5s. to 6s., and enquired for, in consequence of rumours that the adjoining property may possibly be purchased. Port Phillip, 5s. to 7s. 6d.; Eberhardt, 8¾ to 9. Exchequer, 2 to 2¼, and in demand. I.X.L., ⅞ to 1, and quiet.

JAMES H. CROFTS.

THE WEEK.

SATURDAY, SEPT. 16.—Very late last night and long after official hours the weak operators for a rise were thrown into consternation by the receipt of the conditions of peace. There was at once a collapse in the Caledonian market, which closed at a fall of over 1 per cent. from the best point. In reality stock could have been had much lower, but there were no buyers. This morning the price was a further 1 per cent. down (122*l.*), and at this it finally closed. Sheffield, Brighton, A, and Dover, A, all of which during the last day or two have been artificially forced, fell about 1¼ per cent. Russian stocks left off very dull at an average decline of ¼ per cent. In the miscellaneous department to-day a rise of something like 2½ per cent. took place in Australian Agricultural shares, on the report of a valuable gold mine having been discovered. It will be in the recollection of some how these shares (2*l.* 10*s.* paid), and dealt in to-day at 12*s.*) many years ago jumped from a few shillings to over 300*l.* a piece. They were then fewer in number.

MONDAY.—The markets all changed instantly at opening the other way, on it being stated that the "conditions" had been accepted as a basis for an armistice. Transactions, however, nearly all proceeded from jobbers, were were in haste to lessen their operations for a fall. Accordingly, Caledonian, Brighton A, Sheffield, and the other speculative stocks opened straightaway, at 11 o'clock as high as ever they went in the course of the day. At one time low prices from the continental Bourses caused a reaction. The difficulties in the East do not by any means seem to be overcome, and a very sensitive feeling pervades the Stock Exchange. Egyptians, 1873, rose 1⅜, to 44½. A fall of 15*l.*, to 105*l.*, was reported in Australian Agricultural.

TUESDAY.—Some of the leading colliery shares are rather in demand to-day, and were quoted thus:—Chapel House, 3½ to 3¾; West Mostyn, 3 to 3½; Newport Abercarn, 4 to 5; Altami, 5 to 5½; Cardiff and Swansea, 1 to 2; Clee Hill offered at 2s. 6d. Business was done in Cedar Creek at 9s., and at 4s. in Sweetland Creek. Javali were quoted 3½ to 3¾: Nant-y-Glo and Blaina, 20 to 25; Australian Agricultural, 15½ to 16¾; General Steam Navigation, 25½ to 26; Hudson Bay, 17½ to 18. Very little was done in the railway and foreign departments, the feeling being to wait for more definite news from the East. Caledonian, Great Eastern, Brighton A, and British, each improved about ½. All the Egyptian issues were strong, the last price of the 18*l.* 3 Loan being 45.

WEDNESDAY.—The Argentine, 1868, was piled to-day up to 44, it being known that there is still a large number of "bears" who will not close. Egyptians of 1873 closed at 44½; ditto Russian, 9¾; and ditto Turkish, 13¼ to 13½. The traffic returns to day could not be considered satisfactory as a whole. Railways accordingly lost ground a little. The last returns were those of Midland and Great Northern, having increases of £8,800, and £294. The decreases were Berwick, £332; Caledonian, £1800; Sheffield, £141; North Western, £723; Great Western, £778; Brighton, £1,000; Metropolitan, £0; to £15; Exchequer, 1¾ to 2; Parys Mountain, 12s. to 14s.; West Tankerville, 1¾ to 1⅝; Cedar Creek, ⅜ to ⅝.

THURSDAY.—For some little time past it has been rumoured that the largest lead mining company—the historical Lead Hill—in Scotland had been purchased, and the whole of the capital subscribed privately. It formed one of the principal topics on 'Change to-day, and the shares were dealt in at 1½ prem. There are smelting works included, and the present output appears to be 200 tons per month. It is stated on reliable authority that reserves already proved would admit of 15 per cent. dividend for four years to come. Some of the originators of the Sun Fire office worked the mine in 1747. Owing to the very influential position of those immediately associated with Lead Hill, whose connections with Van, Roman Gravels, and Tankerville is not forgotton, the shares are likely to go higher. The present prospects warrant an advance to 10*l.* Capital 120,000*l.*, in shares of 6*l.*, fully paid.

FRIDAY (*Opening*).—The markets have a firm appearance this morning. Brighton, A, 100¼ to 100½; Caledonian, 123½ to 123¾; Dover, A, 111½ to 111¾; Sheffield, 73¼ to 73½; Metropolitan, 102¾ to 103; Great Eastern, 47½ to 47¾. Chapel House are quoted 3¼ to 3½; Cedar Creek are offered at 8s. 9d.; Javali, 8s. to 10s.; Exchequer, 2 to 2¼; Richmond, 9⅞ to 10⅛; Llanwrst, 1¼ to 1⅜; Aberdaunt, ¾ to ¾; Newport Abercarn, 4 to 5; Altami Colliery, 5 to 5¼.—*Two o'Clock:* Prices are still better on the whole. Argentine (1868), are now quoted 46 to 47; Metropolitan are as high as 103¾; Brighton, A, 100¾; and British, 92¼. Great Western are 103¼ to 103½; and Midland, 131 to 131¾.—*Four o'Clock:* With the exception of Great Western, which are quoted 103⅜ to 103⅞, railways are not so good, sales having followed the two o'clock rise. Dover, A's, only 111⅜; Caledonian, 123½; and British, 92¼. Foreign bonds, however, close firm, and Egyptian (1873) are as high as 45¼. Many enquiries respecting "Leadhills" have been received by different brokers, and shares, whenever offered, have been eagerly picked up. Chapel House in demand at 3⅜.

Birchin lane, Sept. 22. FERDINAND R. KIRK.

THE SCOTCH MINING SHARE MARKET—WEEKLY REPORT AND LIST OF PRICES.

During the past week there has been no improvement in the amount of business transacted, but a generally favourable tendency appears commencing. In shares of iron and coal concerns, Monkland (preference) have advanced 10*s.*, ditto (ordinary), and Benhar (8*l.* paid) each about 3*s.*, while Omoa and Cleland have declined 2*s.* 6*d.*, Marbella 1*s.* Glasgow Port Washington (prepaid) have been reduced 4*s.* 6*d.*, but the ordinary shares are unaltered. Bolckow, Vaughan, A, shares are now quoted 45*l.* paid, and 10*s.* higher for week. Ebbw Vale shares have improved 12*s.* 6*d.*; the resolutions passed at the special meeting on the 8th instant must, therefore, be viewed satisfactorily. They are to reduce the paid up capital to 1,491,015*l.*, and borrow 250,0 0*l.* A call of 2*l.* 10*s.* per share is made on Darlington Iron (Limited), payable on October 18; this will make these shares 12*l.* 10*s.* paid up, and there being 14,000 of them, will make the capital raised by the call 35,000*l.* Nant-y-Glo and Blaina (preferred) remain in demand about 20½, but ordinary offer at 5. Andrew Knowles and Sons are at 45*s.* prem., ditto (25*l.* paid), par to 5*s.* prem. Bilson and Crump, 7¼ to 7½. Bolckow, Vaughan, B, 34 to 35. Bradford Brick and Tile, B, 6. Brynmawr, 8. Cardiff and Swansea, 32*s.* 6*d.* to 37*s.* 6*d.* Chapel House, 60*s.* to 65*s.* Consett Iron Ore, 11*l.* 8*s.* 9*d.*, sellers. Charlestown Brick, 9¾. Clee Hill, 1*s.* 6*d.* Crown Preserved, 4*s.* to 6*s.* Great Western, 9 to 11. Llynvi Tondu and Ogmore, 18 to 20. Newport Abercarn, 85*s.* North of England, 8. Park Coal, 29. Pelsall, 7 to 8. Richards and Co., 60*s.* to 70*s.* Rhondda Merthyr, 13 to 15; ditto (20*l.* paid), 4 to 6. Rhymney Iron, 22½ to 23½; ditto (new), 6¼ to 7¼. Scottish Australian, 32*s.* 6*d.* to 37*s.* 6*d.* Sheepbridge, 5¼ to 4¼ dis. Silkstone and Dodworth, 9 to 7 dis. South Wales Smelting, 5½, sellers. South Wales Colliery, 7 to 9. Swan Banks Brick, 15. The Cheli Coal and Iron, 10, sellers. Tredegar, A, 17 to 18; ditto, B, 23 to 24. West Mostyn (preference), 60*s.* to 80*s.*

In shares of foreign copper concerns Tharsis have improved 1*s.* 3*d.*, but Panulcillo are reduced 10*s.*, and Huntington 6*d.* Yorke Peninsula are unaltered, and Kapunda offer at 1*s.* 6*d.* In shares of home mines, Glasgow Caradon have advanced 6*l.*, but new shares are offered 3*l.* lower. Aberdaunant are at 2*s.* 6*d.*, buyers; Bedford United, 8*s.* 6*d.*, sellers; Cargoll, 80*s.*; Glyn, 60*s.* to 65*s.*; Great Laxey, 18¼; Gunnislake (Clitters), 50*s.*; Killifreth, 10*s.* to 15*s.*; Ladywell, 25*s.* to 27*s.* 6*d.*; Llanwrst, 20*s.* to 25*s.*; Pennerley, 25*s.* to 30*s.*; Penstruthal, 12*s.* 6*d.*; Plynlimmon, 6*s.* 3*d.*; Prince of Wales, 5*s.*, sellers; Tankerville, 10¼ to 10½; West Maria, 5*s.*, sellers; West Tankerville, 30*s.* to 35*s.*, and ditto (preference), 4*l.* to 5*l.* In shares of gold and silver mines, Richmonds have further advanced 7*s.* 6*d.*, the week's run being again 850,000. The produce at St. John del Rey and Santa Barbara continue satisfactory. There have been some enquiries for Malpaso (preference) shares. Australasian Mines are at 10*s.*; Cedar Creek, 11*s.* 3*d.*, buyers; Chontales, 5*s.* to 6*s.*; Don Pedro North del Rey, 1*s.* 3*d.* to 3*s.* 9*d.*; Emma, 7*s.* 6*d.* to 12*s.* 6*l.*; Flag-staff, 27*s.* 6*d.* to 32*s.* 6*d.*; I.X.L., 17*s.* 6*d.*, buyers; Javali, 10*s.* to 11*s.*; Pestarena United (Gold), 5*s.* 3*d.*, and ditto (preference), 25*s.*; Port Phillip, 7*s.* 6*d.* to 10*s.*; Rica, 1*s.* 6*d.*, buyers; St. John del Rey, 340 to 360; Sweetland Creek, 5*s.*, sellers; Thornhill Reef, 1*s.* 3*d.*, and ditto (preference), 10*s.*; and Western Andes, 5. In shares of oil concerns, Uphalls are 10*s.* higher, and Young's Paraffin 5*s.* lower. Price's Candle remain at 11 to 12; Runcorn Soap and Alkali, 4¼ to 3¼ dis. In shares of miscellaneous companies, Scottish Wagon have been in demand, and improved 12*s.* 6*d.* An interim dividend of 4*s.* per share, free of income tax, payable Oct. 2, is announced by the Avonside Engine Company. The balance-sheet of Langdale's Chemical Company is out, and considered favourable. After writing off fair amounts for depreciation, &c., a net profit of 10,909*l.* is shown. The balance at debit of profit and loss is now 18,261*l.*, against 57,894*l.* last year. Bolse Metal are at 5½ dis. Langdale's, 90*s.* to 100*s.* Lawe's, 7*l.* 13*s.* 9*d.*, sellers; ditto (preference), 10. Hopkins, Gilkes, and Co., 9¼ dis.; ditto (new), 10 to 9 dis. Milner's Safe, 10½ to 10¾. Newcastle Chemical, 5¼ dis. Palmer's Shipbuilding and Iron, 18½ dis. Phospho-Guano, 7½ to 8. Details of the several day's business follow:—

ON THURSDAY last very little doing. Benhar done at 10, closing 9¾ to 10. Bilson and Crump, 7½, sellers. Chontales, 4*s.* 6*d.*, buyers. Glasgow Caradon, 27*s.* to 28*s.* Huntington, 17*s.* 6*d.* to 18*s.* 6*d.* Monkland done at 50*s.*, closing 49*s.* to 50*s.* Nant-y-Glo and Blaina (ordinary), 5, sellers. Omoa and Cleland, 27*s.* 6*d.* to 30*s.* Penstruthal, 10*s.* to 12*s.* Pestarena United, 5*s.* to 6*s.* Tharsis, 19⅞ to 20; new shares, 13⅞ to 14. Uphall done at 10¾, closing 10½ to 10¾. Young's Paraffin done at 13¾ and 13⅞, closing 13*l.* 16*s.* 3*d.* to 13*l.* 18*s.* 9*d.* Scottish Wagon done at 10⅜, closing 10½ to 10¾.

ON FRIDAY market quiet. Bedford United, 8*s.* 6*d.*, sellers. Benhar, 9¼ to 10. Bilson and Crump, 7¼ to 7½. Bolckow, Vaughan, A, 43 to 45. Glasgow Port Washington, 45*s.* to 46*s.* Langdale's Chemical, 99*s.*, buyers. Lawe's Chemical, 8*l.* 1*s.* 3*d.*, sellers. Omoa and Cleland done at 28*s.* 3*d.* and 28*s.*, closing 28*s.* to 28*s.* 6*d.* Pestarena United done at 5*s.* 6*d.* Richmond, 9¾ to 9⅝. Tharsis done from 20 to 19⅞, closing at these prices; new shares 13⅞ to 14. Uphall done at 10¼, closing 10*s.* to 10⅝. Young's Paraffin done from 13¾ to 13⅞, closing 13*l.* 16*s.* 3*d.* to 13*l.* 17*s.* 6*d.* Scottish Wagon, 10¼ to 11.

ON SATURDAY very little doing. Benhar, 9*l.* 16*s.* 3*d.* to 10*l.*; new shares (8*l.* paid) done at 7⅞. Ebbw Vale, 9¼ to 10. Glasgow Caradon done at 27*s.* 6*d.* I.X.L., 17*s.* 6*d.* to 20*s.* Killifreth, 10*s.* to 15*s.* Nant-y-Glo and Blaina (ordinary), 5, sellers; ditto (preferred) done at 20½. Omoa and Cleland, 28*s.* to 30*s.* Penstruthal about 12*s.* 6*d.* Pestarena United, 5*s.* 6*d.*, sellers. Richmond done at 9⅝, closing 9⅝ to 9¾. Shotts done at 52½. Tharsis done at 20, closing 19⅞ to 20; new shares, 13⅞ to 14. Uphall done at 10½, closing 10⅜ to 10⅝. Young's Paraffin, 13¾ to 13⅞. Scottish Wagon done at 10¾.

ON MONDAY almost nothing doing. Bedford United, 8*s.* 6*d.*, sellers. Benhar done at 9*l.* 18*s.* 9*d.*, closing, 9⅞ to 10; new shares done at 7⅞, closing 7¾ to 7⅞. Cedar Creek, 11*s.* 3*d.*, buyers. Ebbw Vale done at 9¼, closing 9¼ to 10. Glasgow Port Washington done at 45*s.* 6*d.* Nant-y-Glo and Blaina (ordinary), 5, sellers; ditto (preferred), 20½, buyers. Penstruthal, 12*s.* to 13*s.* Pestarena United, 5*s.* to 5*s.* 6*d.* Tharsis done at 20, closing 19⅞ to 20; new shares, 13⅞ to 14. Uphall done at 10¾ and 10⅞, closing 10¾ to 11. Young's Paraffin, 13*l.* 16*s.* 3*d.* to 14*l.* 18*s.* 9*d.* Scottish Wagon done at 10⅞, closing 10¾ to 10⅞.

ON TUESDAY rather more doing. Aberdaunant, 9*s.* 6*d.*, buyers. Bedford United, 8*s.* 6*d.*, sellers. Bilson and Crump, 7¼ to 7¾. Benhar done at 10, closing 9¾ to 10. Bolckow, Vaughan, A (45*l.* paid), 46½ to 48½. Chapel House, 60 to 65*s.* Chontales, 5*s.* to 6*s.* Ebbw Vale, done at 9¾, closing 9½ to 9¾. Glasgow Caradon, 27*s.* 6*d.* to 28*s.* 6*d.*; new shares, 18*s.* to 19*s.* 6*d.* Glasgow Port Washington done at 45*s.* 3*d.* and 45*s.* 6*d.*, closing 45*s.* to 48*s.* Huntington, 16*s.* to 18*s.* Javali, 10*s.* to 11*s.* Langdale's Chemical, 99*s.* to 95*s.* Lawe's Chemical, 7*l.* 13*s.* 9*d.*, sellers. Llanwrst, 20*s.* to 25*s.* Marbella, 65*s.* to 67*s.* 6*d.* Monkland (pref.), 97*s.* 6*d.* to 100*s.* Penstruthal, 11*s.* 6*d.* to 12*s.* 6*d.* Pestarena United, 4*s.* 6*d.* to 5*s.* 6*d.* Port Phillip, 7*s.* 6*d.* to 10*s.* Richmond, 9¾ to 10. Sweetland Creek, 4*s.* to 6*s.* Tharsis, 19⅞ to 20; new shares, 13⅞ to 14. Thornhill Reef, 1*s.* 3*d.*, sellers; ditto (pref.), 10*s.* Uphall done from 11*l.* to 11*l.* 6*s.* 3*d.* Yorke Peninsula (ordinary), 7*s.* 6*d.* to 10*s.* Young's Paraffin done at 13*l.* 10*s.* 3*d.*, closing 13¾ to 13⅞. Scottish Wagon, 10¾ to 10⅞.

SHOTTS IRON COMPANY.—At the annual general meeting of the shareholders of this company, held in Leith, on Friday, the proceedings were uninteresting. The report and balance-sheet (already published) were adopted, and remitted to the directors with powers. The retiring directors were re-elected, and a dividend at the rate of 5 per cent. (free of income tax) declared on preference stock, carrying forward 5730*l.* Ordinary stockholders thus get nothing. The directors record their opinion that they are certain everything will come right in the long run; and, though unfortunately the depression had continued longer than was expected, yet they considered themselves justified in proceeding with improvements upon furnaces, not only that they might be ready to supply the demand, but that it might be in their power to develope the large and valuable mineral fields belonging to the company.

ON WEDNESDAY the market still neglected. Australasian Mines, 10*s.*, sellers. Bedford United, 8*s.* 6*d.*, sellers; Benhar, 9¾ to 10; Bolckow, Vaughan, A, 47½ to 49½; Consett Iron Ore, 11*l.* 8*s.* 9*d.*, sellers. Ebbw Vale done at 9¾, closing 9½ to 10; Glasgow Port Washington, 46*s.* to 50*s.*; I.X.L., 17*s.* 6*d.*, buyers; Kapunda, 1*s.* 6*d.*, sellers; Langdale's Chemical, 90*s.* to 100*s.* Mwyndy Iron Ore done at 40*s.*, Nant-y-Glo and Blaina (ordinary), 5, sellers; ditto (preferred), 20¾, buyers; Richmond, 9⅞ to 10; Scottish Australian, 32*s.* 6*d.* to 37*s.* 6*d.*; Sweetland Creek, 5*s.*, sellers. Tharsis done at 20, closing 19⅞ to 20; new shares, 13⅞ to 14. Uphall done at 11¾ to 11¼, closing 11¼ to 11¾. Yorke Peninsula (ordinary), 7*s.* 6*d.* to 10*s.* Young's Paraffin done from 13¾ to 13½, and 13*l.* 11*s.* 3*d.*, closing about 13⅝. Scottish Wagon done at 10⅜, closing 10¾ to 11.

J. GRANT MACLEAN, Stock and Share Broker.

Post Office Buildings, Stirling, Sept. 21.

ABERCARN-CELYNEN COLLIERIES.—Sinking is being energetically pushed on with at these winnings of the Newport Abercarn Company's. The No. 5 seam of coal, with a valuable bed of fire-clay 4 ft. thick, lying underneath, has been passed though, and about 20 yards only now remain to be sunk to the celebrated "Black Vein" seam.

SECURITIES MART AND EXCHANGE.—An institution bearing this title has been established in London, as will be seen from an advertisement in another column, for the purpose of facilitating purchase and sale of stock and shares otherwise unnegociable. It is explained that at the present moment there exists an enormous mass of securities, representing nominally many millions of capital the greater portion, if not the whole, of which are deprived of that element of ready negociability which the existence of a public market can alone impart. Such a market it is the object of this institution to supply, and in furtherance thereof periodical sales by public auction will be held at the sale-rooms of the institution for the disposal of the securities mentioned, and registers of securities for sale and securities wanted will be carefully kept. In addition to this, the institution will collect, classify, and epitomise all information contained in the articles of association or charters of incorporation half-yearly and yearly reports of the most important public companies, so that capitalists may become acquainted with the necessary details of those concerns offering investments.

BODIDRIS MINES.—A very valuable discovery of lead has been made in this mine, from which a box of specimens has been forwarded to London, and may be seen at the offices of the company, 10, Coleman-street, E.C.

SOUTH WHEAL CROFTY.—We learn direct from the mine that there is an improvement in the 120, and that the lode in the shaft is looking very promising, and that the other parts of the mine are most encouraging.

CAPTAIN TRELEASE, now in London, is OPEN TO ENGAGE MENTS to INSPECT and REPORT ON ANY CLASS of MINES in al PARTS of the WORLD. Knows Spanish, Portuguese, a little French and Italian. Goes to Cornwall in a few days.

Address, 26, Lansmere Terrace, Victoria Park, E.; or West End, Redruth, Cornwall.

MESSRS. JOSEPH J. REYNOLDS AND CO., STOCK AND SHARE DEALERS, 28, FINSBURY PLACE.

LA BELLA RAQUEL COMPANY (LIMITED).

Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of LA BELLA RAQUEL COMPANY (LIMITED) will be HELD at the office of the company, No. 5, Queen-street-place, in the City of London, on TUESDAY, the 3rd day of October, 1876, at the hour of Three o'clock in the afternoon, when resolutions will be proposed (1) to wind-up the company voluntarily; (2) to appoint liquidators; (3) to fix the remuneration of the liquidators.

By order of the Board, JOHN ELPHICK, Secretary.

5, Queen-street place, London, E.C., 22nd September, 1876.

THE CAPE COPPER MINING COMPANY (LIMITED).

Notice is hereby given, that at a MEETING of the Directors of this Company held to day, it was resolved—"That a DIVIDEND of TWENTY SHILLINGS PER SHARE, free of income tax, be and is hereby declared, PAYABLE on the on the 29th day of September instant, to the shareholders on the books of the company on the 23rd instant, and that the Transfer-Books be closed during the said 23rd instant. By order of the Board, J. C. LEAVER, Secretary.

6, Queen-street-place, London, Sept. 20, 1876.

IMPORTANT DISCOVERY.

THE DRYBURNSIDE SILVER-LEAD MINING COMPANY (LIMITED).

Capital £5000, in 100 Shares of £50 each, fully paid-up.

TEMPORARY OFFICES.

26, NEW BROAD STREET, E.C.

Full particulars of this very valuable property can be obtained on application to the Directors, or Secretary, at their offices, 26, New Broad-street, E.C.; or Mr. T. SPARGO, Mining Engineer, 85, Gracechurch-street, E.C.

ESTABLISHED 1846.

C. H. MAY AND CO., GENERAL ADVERTISING OFFICES, 78, GRACECHURCH STREET, LONDON, E.C.

ADVERTISEMENTS inserted in all ENGLISH, FOREIGN, and COLONIAL NEWSPAPERS.

NOTICE TO CORNISH MINE SHAREHOLDERS, AND INTENDING INVESTORS.

MR. R TREDINNICK, Consulting Mining Engineer, will VISIT CORNWALL during the months of OCTOBER and NOVEMBER next on a SPECIAL COMMISSION of INSPECTION of various MINES situate in the several Mineral Districts of that county.

Attendance daily, and letters to be addressed, up to the end of September, to 79, Cornhill, E.C.; and after that date, under cover, to the Editor of the MINING JOURNAL, 6, Fleet-street, London.

Early engagements are requested, so that as little delay and inconvenience as possible may be occasioned.

SHARES in a few PROGRESSIVE MINES in NORTH and SOUTH WALES, YORKSHIRE, and DURHAM can now be purchased with advantage, and of which Mr. TREDINNICK possesses exceptional access to accurate data and intelligence.

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Aug. 16	—Llawrewmbach	8	£14 5 0	Burry Port Company.
Sept. 14	—Kingston Consols	10	16 13 6	Nevill, Druce, and Co.
	15—Foxdale	100	20 3 0	ditto
	18—Great Laxey	100	22 14 6	Sheldon, Bush, and Co.
	19—Frank Mills	15	12 10 6	Nevill, Druce, and Co.
	— ditto	50	8 19 6	ditto
	20—Great Dyliffe	80	14 2 6	Burry Port Company.
	21—Roman Gravels	36	14 6 6	Walker, Parker, and Co.
	— ditto	55	14 12 6	Sheldon, Bush, and Co.
	— ditto	10	14 6 6	ditto
	— ditto	55	14 10 0	Burry Port Company.
	— ditto	55	14 14 0	ditto
	—Van	50	13 0 0	Panther Lead Company.
	— ditto	25	13 17 6	ditto
	— ditto	50	14 0 6	Sheldon, Bush, and Co.
	— ditto	50	13 18 6	ditto
	— ditto	50	14 2 6	Weston, Son, and Co.
	— ditto	50	14 0 6	ditto
	— ditto	25	13 17 6	Burry Port Company.
	— ditto	50	14 2 6	ditto
	— ditto	50	14 6 0	ditto
	— ditto	100	15 1 0	Adam Eyton.

BLENDE.

Date.	Mines	Tons.	Price per ton.	Purchasers.
Sept. 14	—Kingston Consols	14	£ 4 15 0	Vivian and Sons.
	— ditto	11	3 18 0	ditto
	21—Van	100	3 12 0	ditto
	— ditto	50	3 12 0	Dillwyn and Co.
	— ditto	50	3 12 0	Richardson and Co.

PERUVIAN TIN ORE SOLD IN LIVERPOOL on Sept. 20.

Messrs. Bolitho and Sons purchased 6½ cwts., at 32*l.* 15*s.*; Calenick Company's 6½ cwts., at 32*l.* 15*s.*; Bolitho and Sons, 6 tons 15 cwts., at 40*l.* per ton.

COPPER ORES.

Sampled Sept. 6, and sold at the Royal Hotel, Truro, Sept. 21.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
Devon Great Consols	106	£2 15 0	Marke Valley	38	£1 4 6
ditto	95	2 12 6	Gunnislake (Clitters)	80	3 18 6
ditto	95	2 19 6	ditto	78	5 12 6
ditto	93	2 9 6	ditto	74	4 16 6
ditto	78	2 10 6	ditto	73	4 15 6
ditto	69	2 7 6	Glasgow Caradon	72	1 0
ditto	65	1 15 0	ditto	63	3 14 0
ditto	57	5 17 6	ditto	62	4 14 0
ditto	56	2 16 6	ditto	53	4 8 0
ditto	19	3 19 6	Hingston Down	84	2 1 6
South Caradon	98	3 17 6	ditto	63	2 7 0
ditto	90	3 14 0	ditto	30	2 16 0
ditto	67	6 6 6	Brookwood	80	2 8 6
ditto	64	10 0 6	ditto	55	3 2 0
ditto	54	4 19 6	ditto	38	7 9 0
ditto	53	6 11 0	East Caradon	83	4 6 6
ditto	44	6 10 6	ditto	22	3 6 6
Marke Valley	80	3 3 6	ditto	20	9 16 6
ditto	79	2 5 0	Bedford United	64	3 15 0
ditto	76	3 3 0	ditto	40	3 9 6
ditto	47	3 8 0	Wheal Russell	88	2 1 6
ditto	41	1 14 0	Prince of Wales	44	3 7 0
ditto	39	5 9 0			

TOTAL PRODUCE.

Devon Great Con.	727	£2080	10 0	Brookwood	171	£ 612	14 0
South Caradon	470	2693	6 6	East Caradon	125	603	14 6
Marke Valley	400	1159	5 0	Bedford United	104	380	12 0
Gunnislake (Clit.)	305	1358	7 6	Wheal Russell	88	182	12 0
Hingston Down	255	1067	16 0	Prince of Wales	44	147	8 9
Glasgow Caradon	177	406	7 0				

Average standard ..... £102 2 0 | Average produce 6¾

Average price per ton £3 15 6

Quantity of ore ..... 2866 | Quantity of fine copper 182 tons 2 cwts. 2

Amount of money £10,313 2 6

☞ The complete Tickeling will be Published in next week's Journal

THE ROMAN BOUNDARY MINE COMPANY, LIMITED.

(Incorporated under the Companies Acts, 1862 and 1867, with Limited Liability).

Capital £25,000, in 5000 shares of £5 each.

Issue of 4200 shares, payable £1 on application, £1 on allotment, and the balance in calls of £1 per share, as may be required, at intervals of not less than three months.

£5000 has been already subscribed by the directors, &c.

Interest at the rate of 5 per cent. allowed on all calls paid in advance.

DIRECTORS.

WILLIAM OULTON, Esq., Shipowner, Hillside, Woolton, near Liverpool.

DANIEL R. RATCLIFF, Esq., Mossley Hill, Liverpool, and Great Alne, Warwickshire (Managing Director of Milner's Safe Company, Limited).

DYKES ALEXANDER FOX, Esq., Claughton, Birkenhead (Messrs. Coventry and Fox, Merchants, Liverpool).

*JAMES NANCARROW, Esq., Derby House, Rock Ferry (Messrs. Wakem, Waugh, and Co., Merchants, Liverpool).

SAMUEL JAMES CAPPER, Esq., New Brighton, Cheshire, Broker.

BANKERS.

ADELPHI BANK (LIMITED), Liverpool.

SOLICITORS.

Messrs. TYNDALL AND PAXTON, 8, North John-street, Liverpool.

AUDITORS.

ASTRUP CARISS, Esq., 40, Castle-street, Liverpool.

SECRETARY.

HENRY ALGERNON COLVILE.

REGISTERED OFFICES.

LUCERNE BUILDINGS, REDCROSS STREET, LIVERPOOL.

PROSPECTUS.

This company has been incorporated for the purpose of acquiring all the beneficial interest in a lease, dated March 25, 1874, hereinafter referred to, and for working a valuable mineral sett in the parish of Worthen, in the county of Shropshire, and lying immediately to the north of, and adjoining for the length of its southern boundary, the celebrated Roman Gravels and the West Tankerville Mines.

The metallic mining district of Shropshire forms a portion of the great Silurian basin of Central Wales. It is limited in extent, covering only about 70 square miles of ground, but has always been remarkable for the extreme richness of its lead deposits, and comprises within its limits several mines which have throughout the history of mining industry, from the earliest records to the present day, contributed more to the wealth of the country than those of any other district of like area. Conspicuous among its many rich mines are Snailbeach, Tankerville, and Roman Gravels. The first has been working continuously and making immense profits for the last hundred years; it may be considered one of the greatest lead mines in the kingdom, for although a few years ago Minera was a richer mine, and at the present time Van is producing more lead, yet, taking into consideration the permanence of its working and the length of time it has been making profits, Snailbeach will probably be found in the end to have yielded larger returns than almost any other lead mine in England. Tankerville is at present equally rich, having during the six years it has been worked by a limited liability company paid upwards of £52,000 in dividends. Roman Gravels Mine takes its name from the fact that it was worked by the Roman soldiers in the time of the Emperor Hadrian; during the middle ages it was very productive, and at the present time is one of the principal mines of the district, yielding the large quantity of 200 tons of lead ore per month, and having paid £74,700 in dividends during the past five years.

One of the most notable geological characteristics of this district is the occurrence of bands of shale running across the course of the lodes, which in general increase in richness to an extraordinary extent when they come in contact with the shale. The Roman Gravels Mine is a conspicuous example of this peculiarity, for from the earliest workings to the present time the richest pipes of ore have been found in connection with the shale, uniformly following its dip or underlie, and increasing in value as depth is attained.

In the report issued to the shareholders of this mine by Capt. Waters on May 30, 1876, he states that from January, 1871, to March, 1876, the period during which the Roman Gravels Mine has been in the hands of the present company, 10,967 tons 5 cwts. of lead ore has been raised and sold, together with 350 tons of blende, which makes every fathom that has been sunk or driven, including all dead work, to have been worth nearly £40 per fathom, and after showing the immense reserves of ore in that part of the mine that has already been opened up, he concludes his report by saying that in his opinion this great mine is only in its infancy.

"During and since the time of the Romans the principal workings were and have been carried out upon the Roman vein, and by reference to the accompanying section it will be seen that towards the north the workings have reached to within a short distance, about 10 fms., of the boundary in a valuable deposit of ore, still following the shale in its northerly dip towards and into the Roman Boundary Mine.

"It becomes, therefore, a matter of reasonable certainty that the sinking of a shaft on the Roman Boundary Mine sett near to the boundary will lead, at a slightly increased depth, into the same deposit of ore that is now being worked by the Roman Gravels Mining Company within 60 ft. of their boundary. Evidence to this effect is given by the writers of the accompanying reports in the strongest and most positive terms. Mr. Walter Eddy says:—

"On occasions when officially employed inspecting the Roman Gravels Mine, my attention was taken at the surface by the closeness of its shaft to your boundary, being within about 30 fms. of it, and underground to the fact of the rich pipe of ore that yields such large returns there dipping very fast into your ground.

"An important question is, at what depth from surface will the continuation of this rich pipe of ore be met with in your sett near the boundary?

"Looking at the dip of the shale in the Roman Gravels Mine (about 1 in 1 in the direction of your ground, and the ore dips with it), I am decidedly of opinion that you will cut the ore at from 80 to 90 fms. from surface."

Capt. Enoch Parry's report fully confirms the foregoing opinion, and Capt. W. P. Harris writes:—

"The workings on this (the Roman) lode at the 80 and 95 fathom levels in the Roman Gravels Mine show a rich course of lead ore dipping rapidly to the north under the shale; and consequently, at a slightly increased depth, the same course of ore will be found in your mine; this is an unquestionable fact, about which there cannot be any reasonable doubt.

"Judging from what these lodes have produced and are now yielding within a short distance of your boundary, there can be no doubt whatever of profitable results attending your operations."

The Roman Boundary Mine contains several well known and productive lodes, which run nearly north and south and are traversed by caunters or cross lodes, making, within the boundaries of the sett, numerous junctions, so much desired by practical miners.

The vendors have gone to considerable expenditure in making explorations, notably by driving a level near where the shaft is proposed to be sunk. The result has been to prove the highly-mineralised nature of the ground above the shale band. For the present, however, it is thought best to confine operations to sinking the shaft where it is known that the lead lies and will be found.

Careful calculations have been made as to the time and money necessary to sink the shaft. It will probably take about 18 months, and cost, with the necessary plant and machinery, about £4000. When this has been done, the company will immediately be in a position to commence profitable returns, "having opened up," as Capt. Parry says, "one of the most extensive and richest mines in the Shropshire district."

The sett is about 118 acres in extent, and is held under a lease dated May, 1874, for the term of 21 years, subject to a royalty of 1-12th.

The company have entered into no contract save one for the purchase of the said lease, dated June 11th, 1875, for the sum of £5 00 in cash and £4000 in fully paid up shares of the company, made between James Nancarrow, Thomas Trouncer, and Jas. Yelland of the one part, and James Freeman Booth, on behalf of the company, of the other part. The vendors pay all expenses connected with the formation of the company up to the allotment of the shares.

This document, together with the lease, can be inspected at the offices of the company, where any further information, prospectuses, &c., can be obtained on application to the secretary.

Should no allotment be made the deposits will be returned in full without any deductions whatever.

Reports by WALTER EDDY, Esq., Mineral Surveyor of Fron, Llangollen; Capt. ENOCH PARRY, Manager of the Wotherton Mine; Capt. S. MICHELL, Minera Mines, near Wrexham; and Capt. W. P. HARRIS, Manager of Bog and Pennerley Mines.

REPORT BY WALTER EDDY, ESQ.

Fron, Llangollen, March, 1876.—I have much pleasure in handing you my report of an examination of this mineral ground.

It lies to the north of the Roman Gravels and West Tankerville Mines, adjoins them in that direction, and all the profitably productive veins hitherto found in both these mines run through this sett.

The bearing or run of the principal lodes in this district, five or six in number, is from north to south, with an underlie to the east. I shall, however, confine my remarks to the Roman lode, from which all the lead ore now raised at the Roman Gravels Mine (about 200 tons monthly) is got.

On occasions when officially employed inspecting the Roman Gravels Mine, my attention was taken at the surface by the closeness of its shaft to your boundary, being within about 30 fms. of it, and underground to the fact of the rich pipe of ore that yields such large returns there dipping very fast into your ground.

An important question is, at what depth from surface will the continuation of this rich pipe of ore be met with in your sett near the boundary?

Looking at the dip of the shale in the Roman Gravels Mine (about 1 in 1 in the direction of your ground, and the ore dips with it), I am decidedly of opinion that you will cut the ore at from 80 to 90 fms. from surface.

I would recommend you, therefore, to put down a shaft pretty near your boundary. It can be sunk cheaply, as it will be principally in shale for a considerable depth, and you will have but little water to contend with.

This shaft will not only cut the great shoot of ore coming from the Roman Gravels Mine, but will be in a capital position to cross cut the other important veins coming into your ground from this mine and West Tankerville.

I consider that you have a most valuable piece of mineral ground in the Roman Boundary sett, and one that does not require a large capital to reach the ore and develope.

WALTER EDDY.

CAPT. ENOCH PARRY'S REPORT.

Chirbury, Salop, April, 1876.—In accordance with your request, I beg to hand you my report on the Roman Boundary Mine, a property I am intimately acquainted with, and for the lease of which I have repeatedly applied during the last 12 or 14 years. I also know that others have done the same, and may, therefore,

* Mr. Nancarrow does not take his seat at the board until the purchase is completed.

congratulate you on having secured what is generally believed to be a valuable property.

Having so long desired to obtain this mineral sett for myself, you will readily understand that I have given the question of its development very careful consideration; and the long experience I have had, both as a miner and as an agent in the mines immediately adjoining, enables me submit my opinion with much confidence.

The sett adjoins the Roman Gravels Mine on the north, the distance from the principal shaft in that mine to the boundary being only 30 fms.

The line of boundary is about E. 20 N. and W. 20 S., and the Roman lode, from which 200 tons per month are being raised, is a north and south lode, hence it enters your sett nearly at right angles to the boundary.

In the Roman Gravels Mine, some distance south of the engine shaft, a great bed of shale commences and dips rapidly to the north, that is to say towards your sett, and it is in connection with this shale that the Roman vein has always proved most productive, in evidence of which I will quote the following extract from the manager's report of the 1st March, 1873:—

"We find that the water is being drained out of the old workings in the bottom of the 65, north of the engine shaft, which workings are in a line with the run of ore which was seen in the open-cut at surface, and followed down to the 65, the said ore dipping north conformably with the dip of the shale. It is said that in the bottom of the old winze, 7 or 8 fms. below the 65, the lode is worth 50*l.* per fathom."

The point at surface where the pipe of ore above referred to was seen, is about 60 fms. south of the engine shaft, and at the 65 below the adit the same pipe of ore is 20 fms. north of the engine shaft. The total depth from surface to the 65 is 85 fms.—20 fms. from surface to adit, and 65 fms. below adit. Thus it is clearly shown that in 85 fms. sinking the ore has dipped north 80 fms.; and as the end of the 65 fm. level north is about 20 fms. from the boundary, it is very evident that you have only to sink a shaft say, for certain, 30 fms. below the 65 fm. level of the Roman Gravels Mine to reach the said pipe of ore; and as your shaft will be started where the surface is 5 or 6 fms. lower than in the other case, you will secure a good course of ore ground at a depth of 115 fms.

It is most satisfactory to learn, from the weekly report in the *Mining Journal*, that from the date of the report quoted above until the present time, this lode in the Roman Gravels Mine continues to be highly productive down to the deepest level (the 95), and that the pipes, or in fact a great course of orey ground, is dipping towards your sett, and will enter it at the depth at which the mines in this district become most permanently productive.

I might write much more about this lode and its value to you, but perhaps it will suffice to say that it is quite clear to me that it will of itself make as good and profitable a mine in your property as it has in the Roman Gravels Mine.

The other proved lodes are the second north, the Wood, the Cornish, and the California lodes; the first named has produced ore in the upper working of the Roman Gravels Mine, and is likely to prove of great value to you. The Wood lode enters your sett from West Tankerville Mine; it is a fine lode, and has yielded thousands of tons of ore, and I am of opinion that in depth it will prove as rich as the Roman lode; a pipe of ore in it, following the shale in its northerly dip, has been worked down to the 48, and is at that depth only 15 fms. from your boundary, so that at 20 fathoms deeper it would dip into it. The Cornish lode has yielded a large quantity of lead and blende ores, and will enter your sett at about the same depth as the Wood lode. The California lodes were rich from surface to the adit level in West Tankerville Mine.

In conclusion, I have only to advise you as to the mode of working your property. I would recommend you to sink an engine-shaft at from 10 to 15 fms. north of your boundary, which would meet the Roman vein at about 100 to 115 fms. from the surface, and afford means for exploring two or three of the other lodes; and I believe when you have accomplished this work you will have opened up one of the most extensive and richest mines in the Shropshire district.

ENOCH PARRY.

REPORT BY CAPT. MICHELL.

Minera Mines, near Wrexham, June 7, 1876.—In reply to your letter of the 3rd inst., I beg to inform you that I inspected the Roman Gravels Mine in September last, and fully agree with what is stated in Mr. Eddy's report, dated March, 1876, respecting the dip of the runs of ore and depth the ore may reasonably be expected in sinking near the boundary.

The very fine courses of ore I saw at several points when down Roman Gravels, and dipping in the direction of your sett, together with four or five other well known productive lodes, cannot, in my opinion, fail to make a valuable and lasting mine, especially in a neighbourhood where the lodes prove rich to such a depth as in the Snailbeach and Tankerville Mines, the former 230 fms. and the latter over 200 fms., and at this depth but little water to contend with.

In my opinion you cannot do better in opening the mine than by carrying out the suggestions of Messrs. Eddy, Parry, and Harris, by sinking a new shaft from the surface near the boundary, and cross cutting the side lodes therefrom.

S. MICHELL.

CAPT. W. P. HARRIS'S REPORT.

Minsterley, Salop, April, 1876.—Agreeably with your request, I have pleasure in handing you a brief report on the Roman Boundary Mine property.

Your property immediately adjoins the well known Roman Gravels Mine and West Tankerville Mine.

In October, 1874, I had occasion to visit the Roman Gravels Mine, and when underground I took particular notice of the main, or Roman, lode, which, with others, runs directly into your property at right angles to the boundary. The workings on this lode at the 80 and 95 fm. levels in the Roman Gravels Mine show a rich course of lead ore dipping rapidly to the north under the shale, and, consequently, at a slighly increased depth, the same course of ore will be found in your mine. this is an unquestionable fact, about which there cannot be any reasonable doubt.

From the West Tankerville Mine your property receives several productives lodes, which have yielded large quantities of lead, particularly near the shale.

The shale has a northerly dip of about a fathom in a fathom; therefore, by sinking a shaft near the boundary, you will pass through it at a moderate depth, and be in a position to command most of the lodes to profitable advantage.

At the depth of 80 fms. you may calculate upon reaching the Roman lode, and at 100 fms. will have a tolerably good length of productive lode to explore; then by short cross-cuts you will be able to intersect and develope the other lodes—viz., the Caunter, California, Cornish, and Wood lodes.

Judging from what these lodes have produced and are now yielding within a short distance of your boundary, there can be no doubt whatever of profitable results attending your operations.

You will require an engine for pumping and winding, but not one of great power. The ground is favourable for sinking; the engine-shaft, therefore, will not be a very expensive undertaking.

W. P. HARRIS.

The following Memoranda by the late HENRY CURWEN SALMON, Esq., on the Lead-bearing District of Shropshire, may be found interesting.

The geological relations of the Shropshire mining district, so far as they affect the workings of the mines, are by no means simple. In the first place the slate rocks are interstratified with great beds of black lustrous shale, similar to the carbonaceous shale so frequently met with in connection with mining in the upper beds of the carboniferous limestones, and which cause the great deposits of lead that enrich the lodes. Sometimes these shales are mere bands a yard or so thick, but at other places they seem to be hundreds of fathoms thick, and to have a definite course through the country, occupying, as it were, large troughs in the slate-rocks or blue stone. To the correlation of these great bands of carbonaceous shale may be distinctly traced the gigantic deposits of lead ore which equally characterise this and the Van districts. In the other lead districts of the country, such for instance as the counties of Cornwall and Cardigan, very excellent lead mines are met with, but the ore occurs more disseminated or drawn out, so that to raise an equal quantity of ore probably ten times as much ground has to be opened out and explored.

Some of the greatest lead mines of Cornwall are said to have yielded an average return of little more than ½ ton per fathom; and the reports of the leading Cardiganshire mines show that their produce varies from 10 cwts to an average maximum of 2 tons per fathom, while the Shropshire district, taken at a maximum, may be said to have yielded 8 to 10 tons per fathom. One of the most important mines in this district is the Roman Gravels, probably the most ancient lead mine in Great Britain, having been undoubtedly worked by the Romans. It now affords a striking instance of the great similarity that exists between the modes of occurrence of the rich courses of ore in this and the Van districts; as in the Van Mine the great course of ore in Roman Gravels, which is worth many tons to the fathom, skirts a band of lustrous shale, with which it is evidently correlative, and indeed the occurrence of this shale in connection with the veins gives its great value to the Shropshire district.

FORM OF APPLICATION FOR SHARES.

TO THE DIRECTORS OF THE ROMAN BOUNDARY MINE COMPANY (LIMITED).

GENTLEMEN.—I request that you will allot me shares in the above named company, and I agree to accept such shares, or any less number you may allot me, subject to the provisions of the Memorandum and Articles of Association, and I hereby authorise my name to be entered in the Register of Members of the Company for the shares so allotted.

Signature .....
Name in full .....
Residence .....
Date..... Profession, or Business .....

BANKER'S RECEIPT.

(To be retained by applicant.)

Liverpool, ——— 187 .

Received of ——— the sum of ———, being a deposit of £1 per share upon an application for ——— shares of £5 each of the Roman Boundary Mine Company (Limited).

For the Adelphi Bank (Limited).

THE BIRMINGHAM WAGON COMPANY (LIMITED) MANUFACTURE RAILWAY WAGONS of EVERY DESCRIPTION, for HIRE and SALE, by immediate or deferred payments. They have also wagons for hire capable of carrying 6, 8, and 10 tons, part of which are constructed specially for shipping purposes. Wagons in working order maintained by contract.

EDMUND FOWLER, Managing Director.

WAGON WORKS,—SMETHWICK, BIRMINGHAM.

*** Loans received on Debenture; particulars on application.

ONE MILLION STERLING Has been paid as COMPENSATION FOR DEATH AND INJURIES Caused by ACCIDENTS OF ALL KINDS, By the RAILWAY PASSENGERS' ASSURANCE COMPANY.

HON. A. KINNAIRD, M.P., Chairman.
PAID-UP CAPITAL AND RESERVE FUND £180,000.
ANNUAL INCOME, £200,000.

Bonus allowed to Insurers of Five Years' standing.

Apply to the Clerks at the Railway Stations, the Local Agents, or—

64, CORNHILL, and 10, REGENT STREET, LONDON.

WILLIAM J. VIAN, Secretary.

Mining Correspondence.

BRITISH MINES.

ABERDAUNANT.—S. Toy, Sept. 20: The new shaft is down 17 fms. 5 ft.; the ground is firm, and will not require any timber; our water is not so much as it was last week.—Deep Adit Level: On account of so much rain we are again obliged to repair this level with timber. The cross-cut driving towards the new shaft is progressing satisfactorily. In the east part of the sett (Crowburn) the ground in the cross-cut is hard and spare for driving towards the south lode.

BAMPFYLDE.—Capts. J. Juleff and H. T. Healey, Sept. 15: We beg to forward the following remarks on the prospects of these mines:—In the first place you have several iron lodes, and we believe when fully developed will open out immense quantities of iron ore of a most excellent quality. The lode mostly opened on being the Stowford lode, which has proved of a very productive character, and as we have before said the lode will produce from 15 to 30 tons of iron ore per fm., and we estimate there is now laid open at the adit level and above over 20,000 tons of iron ore ready to be taken away and sent to the market, besides 30,000 tons now lying at the surface. The copper lode has not been but little worked on through the summer months in consequence of the very dry season, consequently we have not been able to drive the pumping-wheel sufficient speed to keep the bottom of the mine clear of water; however, we are glad to say the lode at the 112 is looking exceedingly well, and we believe will produce large quantities of copper ore, from the fact that the last 10 fms. driven has produced a more superior quality of copper ore, than in the upper levels. Seeing this, with the 90 fms. of ore ground driven through and standing in the bottom of the 102, and before the 112 present end, makes us very strongly express our opinion relative to the future prosperity in developing the bottom part of this mine. The 102 end is driven beyond the 112 end 100 fms., and is a very kindly lode, also the 90 is considerably in advance of the 102, and from the appearance of the lode and strata we think it is entering a new run of ore ground. We have no doubt but there is 600*l.* worth of copper ore standing in the ground between the 102 and the 112. This, with every chance of making further discoveries in the western ground, makes these mines a very desirable property.

BEDFORD UNITED.—R. Goldsworthy, W. Phillips, Sept. 21: The crosscourse in the 103 fm. level west, referred to in our former report, is about 1 ft. wide, composed of capel and spar, running north and south, underlying east about 2 ft. 6 in. in 6 ft., which shifted the lode about 2 ft. south; the lode is again producing good stones of ore. No other change to notice.

BELSTONE.—James Neill, Sept. 16: A Shaft: After a period of four months, during which, in consequence of the insufficiency of the surface water, we have been unable to continue the drivage of the cross-cut at the 80, We succeeded, on Monday the 11th inst., in forking the water in the shaft, and at once resumed the drivage, which has been continued to this time without interruption. The stratum still maintains it favourable characteristics, and is highly mineralised, being composed of capel, killas, garnet, chlorite, hornblende, with good branches of arsenical mundic, and such indications as are highly favourable to the lode, which I trust we shall now very shortly intersect. Length driven this week, 1 fm. 0 ft. 7 in.; total distance from main shaft 19 ft. 3 ft. 9 in.—C Shaft: The stope in the back of the 1 level, east from cross-cut north, on No. 2 cross course at the 40 fm. level (north part of lode), has improved this week, and still yields good branches and nests of black and yellow ore, the stratum is still favourable. The workings in bottom of this level, west of stope, are much the same in appearance as last week, there having been very little done at this point owing to the six men having been removed to the 80 cross-cut, which will also account for less ore being raised this week than last. Circumbe's tribute pitch is looking better than last week. All the machinery is now working well and smoothly. We have plenty of surface water.

BRONFLOYD.—Thos. Kemp, Sept. 21: No. 3 Shaft, North Lode: The winze from the 95 is communicated with the 110, which has thoroughly ventilated the bottom part of the mine, and has also given us facilities for opening the lode to full width, which work has been proceeded with at a point about 10 fms. east of winze, where the lode, as far as cut into, is looking exceedingly well, but the ground is very hard for progress; we shall continue the drivage to the east of winze. All other points are looking much the same as when last reported. Hauling and dressing going on regularly. Machinery in pretty good order.

CALDBECK FELLS.—J. Polglase, Sept. 15: The 80 stopes have improved in value during the past week. The lode in the 90 end on Silver Gill is larger than for some time past, now driving at 70s. per fathom. On Monday last we put a pare of men to cut through a portion of the lode standing in the 10 fm. level, east of Junction shaft; so far as can be seen it promises well for lead, and I hopes shortly to recommend the employment of more hands.

CATHEDRAL.—J. Mitchell, Sept. 18: The men are making fair progress in sinking the engine-shaft; the lode is not quite so large as it was, but still producing good stones of grey copper ore; it is also underlying in its proper course about 1 ft. per fathom—which I am very glad to see, as I think we are coming to a point where we may expect a very great change for the better. The lode in the rise in the back of the 42 is still producing ore. We are pushing this on as fast as we can to hole to the winze above; when completed it will lay open some fair tribute ground.

CWM ELAN (NEW).—W. Goldsworthy, Sept. 16: The 30, west of shaft, is being driven by the side of the lode, by two men, at 6*l.* per fathom, producing good work for the dressing floors. The same level, east of shaft, on the north lode, by two men, at 6*l.* per fathom; the lode here yields fine stones of ore, and lets out a large stream of water; the general aspect of this end induces me to expect a valuable improvement at an early day. The same level, on the south lode, by two men, at 5*l.* per fathom; the lode is 18 in. wide, composed chiefly of capel and blende ore; the lead ore portion is small at present. The 20, west of shaft, by two men, at 6*l.* per fathom; the lode is 18 in. wide, and is looking very promising; the present value is 15 cwts. of lead and blende ores per fathom. The winze sinking under the 10, east of shaft, by two men, at 4*l.* per fathom; there is a fine branch of lead ore going down nearly the length of the winze, and it seems to be lengthening as we go deeper. No. 1 stope, in the back of 20 east, by two men, at 3*l.* 10s. per fm., producing 15 cwts. of lead and blende ores per fathom. No. 2 stope, in the same level, by two men, at 3*l.* 5s., per fathom, worth 12 cwts. of lead and blende ores per fathom. The stope in the same level, east of shaft, by two men, at 3*l.* 10s. per fathom; the lode will produce 12 cwts. of lead and blende ores per fathom. The stope on the north lode, by four men, at 3*l.* 10s. per fathom; the present value is 17 cwts. of lead ore per fathom. I have put men to stope the back of the 30, east and west of shaft. The stope in the eastern level, by two men, at 3*l.* 10s. per fm., worth 16 cwts. of lead ore and 5 cwts. of blende ore per fathom. No. 1 stope, in the western level, by two men, at 3*l.* 10s. per fathom, producing 14 cwts. of lead and blende ores per fathom. No. 2 stope, by four men, at 3*l.* 15s. per fathom, worth 18 cwts. of lead ore and 7 cwts. of blende ore per fathom. These stopes present some valuable ground above (between the 30 and 40). Upon the whole, the present prospects of the mine are very encouraging. We are preparing a parcel of lead ore for market as fast as possible. All the machinery is in good working order and repair.

CWMYSTWITH.—Sept. 18: During the past month we have driven nearly 8 fathoms west in the Rosa level. Although it appears to be rather unsettled ground, at the same time the lode carries a regular bearing, with a nice strong gossan and good solid stones of lead ore, and for 3 fathoms in length worth 11cwts. per fathom; thus we feel confident that we have a good piece of ground between Michell's and the Rosa level.—Level Fawr: We have cleared and timbered a great deal east of the wide stope in the old workings, but cannot report a discovery; however, we are in a fair way to prove the part of the lode left standing on the north side, by following the ore now being worked in the east end of the stope. The lode looks well, going west in whole ground. We have not dressed any stuff from this stope as yet, consequently we have a large pile ready for the stonebreaker. Our tributers are working well and getting fair wages. The Coloms's patent ore-washing machines continue to get through a large quantity of stuff; and we have made a cleaning up at the halvans, with the following result:—1 ton of lead ore and 1½ ton of blende, at a total cost of 9*l.*—New Work: The launders are all in place, and the gearing about the water-wheel connected. The masons have promised to commence the bed for stone-breaker to-morrow. The engineers are making some small alterations in the air compressor, and we hope to see the rock-drills in a full and regular way of working in a few days.

DE BROKE.—T. Phillips, Sept. 20: At Wilson's shaft, in the 35, we are cutting ground for cistern, &c. The 35, driving east, after going through a short piece of rather barren ground is improving; the ore bearing part of the lode is now worth 12*l.* per fathom. The part of the lode being carried in the 35 west is hard for progress, and not producing ore to value. The winze below the 25 is worth 12*l.* per fathom. The stope east of rise is worth 30*l.* per fathom. The stope west of rise from 7*l.* to 10*l.* per fathom. The stope west of junction is worth 12*l.* per fathom. We have commenced dressing towards the next sampling of ore.

DENBIGHSHIRE CONSOLIDATED.—John Pryor, Sept. 21: The 112 cost has more spar coming in with the lead, and the vein, I am pleased to say, is drawing towards the Coed-y-felw: I am looking for great results from this end of the mine. In the 112 west, No. 1 rise, the vein is 3 ft. wide, yielding the same quantity of lead as last reported.—No. 2 rise: There is an improvement in the yield of ore to notice in this portion. In the level I am very pleased to notice a gradual and permanent improvement, and we are raising therefrom a good quantity of ore. Since my last advice of sales we have sent off 7 tons, at 13*l.* 10s. per ton.

DEVON GREAT CONSOLS.—Sept. 22: There is nothing new in the report from the mines this week. The sale of ore, 727 tons, on Sept. 21, realised 28*l.*

EAST BASSET.—R. Pryor, E. Adams, Sept. 20: On Friday last we set the following bargains: The 50 fm. level, to drive east of cross cut, by four men, at 6*l.* per fathom; the lode for part carried is 3 ft. wide, intermixed with ore throughout, and likely to improve shortly, being all in whole ground. The 40, to drive west of cross-cut, by two men, at 4*l.* 10s. per fathom; the lode for part carried is 2½ ft. wide, and worth 8*l.* per fathom. To stope the bottom of this level, by four men, at 2*l.* 15s. per fathom; lode at present a little disordered by a horse, and is worth 8*l.* per fathom. No time should be lost in opening up ground at these points.

EAST VAN.—W. Williams, Sept. 20: Tempest shaft is down 5 fms. In the 25 west the end now looks very promising, the ore-ground having risen nearly to the roof of the level, there showing good spots of lead.

GAWTON COPPER.—George Rowe, George Rowe, jun., Sept. 16: The part of the lode carried in the winze below the 117, east of King's engine shaft, is 4 ft. wide, yielding arsenical mundic and spar, with good stones of ore. The lode in the stopes in the back of the 117 is worth 8*l.* per fathom. The lode in the 103 east is 3 ft. wide, producing good stones of ore, and showing a very kindly appearance. The lode in the rise in the back of the 105 is worth 12*l.* per fathom. The stope working in the bottom of the 95 is worth 10*l.* per fathom. The lode in the 95 east is carried 5 ft. wide, and principally composed of spar and capels mixed with mundic and spots of good quality yellow copper, altogether of a kindly appearance. The tribute department is a little improved.

GLASGOW CARADON CONSOLS.—W. Taylor, W. J. Taylor, Sept. 19: In the 78 east, on south lode, the ground continues favourable, with a good vein of ore, worth 15*l.* per fathom. The same level west, on south branch, is worth 8*l.* per fm., opening tribute ground. The middle level east is suspended to rise in back for ventilation; this rise is worth from 10*l.* to 12*l.* per fathom. The winze sinking in the bottom of the level is now down between 5 and 6 fms., and the lode is large; the part carried is worth 15*l.* per fathom. This winze will soon be as deep as the 78, and is some 10 fms. before the 78 east. No change in the 65 east or in the 51 east on the caunter lode. The stopes and pitches through the mine continue to turn out their usual quantities of ore, varying in value from 12*l.* to 20*l.* per fathom. The new shaft is nearly completed to the 65; we have now 17 men cutting it down below; some of these will come off in about another fortnight, which will reduce the cost on this head. We have now set a bargain to six other men to open out the shaft to full size and put in penthouse; this will take about a week, when we shall at once commence sinking below the 78.

GLENROY (Telegram).—R. Rowe: Now come from underground. Stopes in

the 40 without 'change; producing good blende. The cross-cut in the 50 driven 4 fm.; lode yet before us. Busy clearing the 60 of stuff.

GLYN.—James Roach, Sept. 18: The engine-shaft is set to six men to sink perparticular 12 fms., including cutting ground, fixing bearers and cistern, placing 1 ft therein, fixing main rods and stages, shaft piece and door, and all extra work that may accrue, including fixing timber for the performance of the contract, for the sum of 21l. Six men driving 28 fm. level east at 4l. per fathom. I have to-day directed the men to drive due north, believing that the most productive part of the lode is standing in that direction. Four men driving 28 fm. level west at 4l. per fathom; when driven far enough I intend to rise to communicate with the winze sunk under the 15 fm. level, and when accomplished drive north in ore-bearing part of lode. Machinery and pitwork all in good order, and work well.

GOREU.—Wm. Nicholls, Sept. 20: Fair progress is being made in sinking the engine-shaft, which is now 7 fms. 4 ft. below the 25, and the ground more favourable for sinking. The lode retains its size and character, with more water issuing therefrom, and still producing stones of silver-lead.

GORSEDD AND MERLLYN CONSOLS.—W. Edwards, Sept. 22: The new pit is within between 6 and 7 yards of completion to the adit level, and we are making all the haste we can to finish the sinking.

GREAT DYLIFFE.—E. Rogers, Sept. 20: In Dyliffe lode not much alteration during the past week. In the engine-shaft there has been no lode taken down within the last few days. The same remark will apply to the 120, both east and west of this shaft. In the 105 end, driving east of boundary shaft, the lode is 6 ft. wide, but unproductive. At the 40, driving west of Bradford's shaft, fathom.—Llechewedd-du Lode: In the 35 end, driving west of Bradford's shaft, the lode is worth 12l. per fathom. We have sold to-day 80 tons of lead ore to the Barry Port Smelting Company, at 14l. 2s. 6d. per ton, realising 1130l.

GREAT RETALLACK.—J. Harris, Sept. 16: The 20 to drive west of engine-shaft by two men, at 4l. 10s. per fathom, for the month; we are carrying about 3 ft. of the lode in the upper part of the level, which is hard, being principally of grey iron ore mixed with quartz; immediately below the footwall of the lode is a floor of hard killas about 18 in. thick, and beneath this is a bed of soft white killas, very similar in character to what we find associated with our best blende ground in other parts of the mine. I also set eight pitches on tribute to 13 men at the 30, 30, and 40, at 35s. per ton for best blende, the tributers to pay all cost to make their ore marketable.

GREAT WEST VAN.—Wm. Bramwell, Sept. 18: There is no important change in any of the bargains since my report of last week, except in the 46, west of old engine-shaft, where we have met with a cavity quite of the same description as that we had in 48, south cross-cut, and I am pleased to say that the lode has greatly improved, now full 4 ft. wide, composed of carbonate of lime, impregnated throughout with lead ore, worth 16l. per fathom; a very promising lode indeed for further improvement. On the whole, the mine looks very encouraging. Dressing of the lead is being pushed forward with all speed.

HINGSTON DOWN CONSOLS.—J. Richards, Sept. 21: Bailey's Shaft: The 100 west is communicated with the 160, east of Rowe's winze, and the lode at the point of communication is worth 2 tons of ore, or 8l. per fathom. The stope of ground being taken down below the 150 west, east of Nicholl's winze, is improved, being at present worth 5 tons of ore, or 15l. per fathom. The lode in the stope in the back of the 150 west is still worth 4 tons of ore, or 12l. per fathom. In the 140 west the lode is 2 ft. wide, composed of capel, quartz, mundic, and continues to produce rich stones of ore. In the stope in the back of the 110 west the lode is still worth 4 tons of ore, or 14l. per fathom. There are six tribute pitches at work, in most of which the men are doing very well.

KINGSTON CONSOLS.—G. F. Richards, Sept. 21: Good progress continues to be made in sinking the engine-shaft below the 30, and the portion of lode which is carried in sinking is highly promising, producing occasionally rich work of lead and blende ores. In the 18 the lode is still very large and promising, and produces good saving work for silver-lead ore. The winze and stope in the bottom of the 18 continues to look well, and produces about 5 cwts. of lead and 7 cwts. of blende ores per fathom. Griffin's rise has been holed to the winze in the bottom of the adit level, and the communication affords good ventilation to the 18 and other parts of the mine. Additional stoping has already been put on, and more will be commenced forthwith, in order to increase the samplings of lead and blende as fast as possible. The stope in the bottom of the adit will produce about 5 cwts. of silver-lead and 8 cwts. of blende ores per fathom. No. 1 stope, in the back of the 18, will produce 4 cwts. of silver-lead and 6 cwts. of blende ores per fathom. No. 2 stope, in back of the 18, will yield from 5 to 6 cwts. of silver-lead and 7 cwts. of blende ores per fathom. Griffin's stope, in back of the 18, will produce about 6 cwts. of silver-lead and 12 cwts. of blende ores per fathom. The stoping down of the lode on the north side of the 18 has been re-commenced, where the lode will produce 5 cwts. of silver-lead ore per fathom. All the machinery is in good working order, and we are pushing on as fast as possible for another sampling of lead and blende ores.

LADYWELL.—A. Waters, Sept. 21: The main lode south of the new Britain lode is 3 ft. wide, producing stone, gossan, and sparry matter of a kindly character. We shall have to drive 4 fms. beyond the junction to get to the dip of the ore ground seen in the 16. The tributers are working as usual, all at 5l. per ton of lead ore. No. 2 pit on the mountain south is down 1½ fms.; lode yielding sulphide and carbonate of lead. No. 3 pit, 9 ft. long by 5 ft. wide, is down 4½ fms. in a lode 6 ft. wide, yielding rich blue and white ore in paying quantities. This is the best looking lode at the depth mentioned I ever saw in Shropshire.

MELLANEAR.—J. Gilbert, Sept. 20: On Saturday last we set in the public setting the following bargains:—Gundry's engine-shaft, to sink below the 72, by twelve men, at 30l. per fathom; we have made very good progress in this shaft; last month we sunk 9 ft. 3 in., with nine men, and expect to sink this month about 9 fms. The 30, to drive west of skip-shaft, by four men; the lode is small, and produces stones of copper ore. The 50, to drive west of skip-shaft, by four men; the lode is large, and produces some saving work for copper ore. The 68, to drive west of skip shaft, by six men; the lode is 4 ft. wide, and worth fully 5 tons of copper ore per fathom. We have also set the tribute pitch in the back of the 50, to three men and three boys, at 10s. in 1l. Our progress at the old engine shaft has been rather better than we expected. We are now in fork 3 fms. below the 78, and are still forking at our usual speed—about 6 ft. in 24 hours. We have put a pare of men to clear out and repair the 78, and shall get it in working order and commence to drive with a full pare of men as soon as possible.

MONYDD GORDDU.—Sept. 21: The shaft below the 12 continues going down favourably. With regard to the different points at work on the lode, I do not see that there is any change worth reporting. I am very pleased at getting 17l. 2s. per ton for our last sampling, 7 tons of which have left the station; and I hope to get all the remainder down by Saturday, and from the station on Monday, the 25th inst. We have plenty of water, and everything in full swing; and we are pushing ahead for another sampling.

NEW CHIVERTON.—James Trewartha, Sept. 21: Setting Report: The 50 to drive north, by six men, at 10l. per fathom; lode worth 8l. per fathom. The 50 to drive south, by six men, at 10l. per fathom; lode worth 10l. per fathom. The engine shaft is down 8 fms. below the 50; contract not out. The 35 to drive south, by four men, at 8l. per fathom; lode producing good stones of lead, but not enough to value. The 35 to drive north, by six men, at 9l. per fathom; lode producing saving work. A winze to sink below the 35, by six men, at 12l. per fathom; the lode has not been taken down for fear of cutting more water, but according to indications the winze is being sunk by the side of a good lode. A winze to sink below the adit, by four men, at 8l. per fathom; there is a large fine looking lode, composed chiefly of sulphuric mundic, but we hope very quickly to come down upon a good bunch of lead. In back of the 50 north there are three tribute pitches, by six men, one pitch at 9l. per ton, and two pitches at 10l. per ton. Two tribute pitches in back of the 50 south, one at 9l. per ton, the other at 10l. per ton. One pitch in back of the 35 south, by four men, at 10l. per ton, and two pitches in bottom of the 15, south of trial shaft, by four men, at 10l. per ton.

NEW HENDRA.—R. King, Sept. 20: The lode in the deep adit end is about 6 in. wide, and produces some very rich copper; I broke from it last night some of the best copper I ever saw in the mine, and we still continue to add to our pile every day; the lode letting out water freely. Should this lode continue we shall be able to sell a pare of ore, as we promised, against our next meeting.

NEW NORTH POOL.—W. C. Vivian, Sept. 21: I find to day by measurement that we have driven the 25 south, on the cross-course, from the point of intersection, 10 fms. The rock on the eastern side of the cross course has numerous faces of blende and mundic, with a little yellow copper ore; but thus far we see nothing of the lode. We shall, of course, continue this cross cut for at least two fathoms further, but I have to-day resumed the driving of the north cross-cut at the same time, as we must endeavour to reach the lode in this direction also.

NEW ST. AGNES.—Wm. Vivian, Sept. 21: The 84, driving east on the flat lode, is very kindly in appearance; lode 2 ft. wide, producing some good tinstone. In the 72 driving east the lode continues to improve. From the present appearances of the lode I am looking forward to a good course of tin at this point. In the 72 driving west the lode is 2 ft. wide, producing a little tin. The stopes in the back of the 72 west are worth 15l. per fathom for copper and tin. In the cross-cut driving south at the 84, to intersect Wheal Kitty south lode, there is no change to notice since last week.

NEW SOUTH MERLLYN.—R. Rowlands, Sept. 21: In the No. 4 sump north the vein is about 3 ft. wide, composed of rulers of limestone and a rib of spar about 12 in. wide with patches of lead in it. In the 80 yard level the vein has been gradually widening for the last few days, and is now about 4½ ft. wide; we have intersected a cross joint bearing through the hanging of the lode, which we consider a very favourable indication.

NORTH LAXEY.—R. Rowe, Sept. 20: The 136, or bottom levels, continue to open out a large lode, from 3 to 4 ft. wide, and producing some saving stuff for lead; appearances greatly encourage and justify the immediate sinking of the engine shaft to a deeper level. No change in the 84 end north, and the stopes, five altogether, continue to be worth from 10 to 15 cwts. of lead per fathom.

OLD TREBURGETT.—W. Hancock, W. T. Bryant, Sept. 20: We are glad to inform you there is an improvement in the 90 end south; the lode is 4 ft. wide, of a good appearance, and worth about 8l. per fathom. Other points are much the same as when last reported on. We sampled to-day two parcels of silver-lead ore. No. 1 (computed) 30 tons; No. 2, 5 tons, for sale on the 28th inst.

PARYS MOUNTAIN.—T. Mitchell, Sept. 21: We have no change worthy of special notice in any points of operation this week. The various points at the 65 and 45 are yielding best at present.

PENNANT.—Sept. 21: The lode in the 80 yard level east does not exhibit any change since last report. The same level west is now cleared of stuff, and driving resumed. The character of the vein is much the same as in the eastern point, but we shall undoubtedly soon intersect the shoots of lead and carbonate that were so productive in the upper levels. The 60 east is worth fully 10 tons of carbonate of barytes to the fathom. We have intersected an extensive cavity here during the past day or two, which shows very nice lead ore. We cannot now be far from the junction with the south lode, and this level seems to be opening up a bright future for us. We have cleared this of all stuff. The stopes Nos. 1 and 2, under the 40 yard level, are producing good quantities of carbonate and lead ore. I have put four men to work near the junction in the 40, and am glad to say they are getting some nice lead and sulphate, and I think from present appearances we shall raise great quantities of lead from this part. Having tapped the water frome one of the upper shafts, I have been enabled to go down to within 4 ft. of the bottom of same. I find the south lode untouched, and I took therefrom some lumps of lead as fine as anyone could wish to see; this is a very cheering feature.—Dressing Floor: The picking grate and table are now all ready, with the water on, and we shall use them for dressing purposes on Monday next, and I think you will say we have the most neat and compact plant for dressing operations that is to be seen in North Wales.

PENNERLEY.—W. T. Harris, J. Delbridge, Sept. 20: The 130 contains a good deal of carbonate of lime, which we consider indicative of a near approach to a carbonate of lime of a kindly character. The lode in the 120 west is fully 3 ft. wide, composed of 2½ ft. wide, worth 3 tons of lead ore per fathom.—Potter's Pit: In the 90 west the ground is easier for progress, and the lode yielding saving work for lead ore. No 2 winze, sinking below the 75, has much improved, now worth 1¼ ton of lead ore per fathom; this winze is now 6 fms. west of the 90 forebreast. There is no particular change in any other bargain, or in the tribute pitches, since our last report. You shall have a full report next week. We have to-day sent out samples for the sale of 70 tons of lead ore on the 27th inst.

PENSTRUTHAL.—Wm. Teague, Sept. 18: In Highburrow shaft, sinking under the 58, the lode is improved in appearance and letting out a quantity of water, which has drained the 58 above. This, I should say, was a good indication of an early improvement. In the 58, driving east of shaft, the lode is worth about 10l. per fathom for copper ore. In the 58, driving west of shaft, the lode is producing a little copper ore. In the 46, driving east of Highburrow shaft, the lode has a very kindly appearance, and worth for copper ore 5l. per fm. In the 40, driving west of shaft, the lode is worth for tin 5l. per fathom. In the 10 fm. level, driving west of middle shaft, the lode is split, which has disordered it for the present. When it comes together again you may expect an improvement. In the footway shaft sinking under the 22, the lode is large, and worth for tin 8l. per fathom. We expect to communicate with the 34 fathom level in about a fortnight from this time, which will greatly improve our ventilation. In the winze sinking under the 34, east of shaft, the lode is worth for tin 10l. per fathom. We hope to communicate this with the rise in the back of the 46 in about a month from this time, which will lay open some good tin ground. We have commenced to sink a winze in the bottom of the 58, west of Highburrow shaft, and the lode is worth for copper ore 5l. per fathom. We shall sample 40 tons of copper ore to morrow, and sell about 7 tons of tin this month.

PLYNLIMMON.—J. Garland, Sept 20: In the 24, east of new winze, the lode is again disordered by an oblique joint which has come into the end from the north side; at present it produces saving work only, but will, I hope, again improve in a few days. The stope over this level, east of new winze, has slightly improved since my last, and now produces about 15 cwts. of lead ore per fathom. The stope over the same level, east of cross-course, has fallen off a little in produce, and is now worth 1½ of lead ore per fathom. Drawing and dressing are being pushed on as fast as possible, with fine weather and a good supply of water. The parcel of lead ore (20 tons) sold on the 15th inst. realised 287l. 10s.

PRINCE OF WALES.—J. Andrews, J. Pryor, Sept. 20: There is no change in the 77 north. The lode in the 55 west is worth 8l. per fathom. We have taken the men from the 45 end and put them to sink a winze below the 55, west of cross-course, where the lode is 3¼ ft. wide, worth 10l. per fathom.

RELISTIAN CONSOLS.—J. Curtis, Sept. 21: There is no material change to notice in the 24, east of Duke's shaft, since my last report. The branch is quite as wide, with good stones of yellow copper ore in it.

RHEIDOL.—John Ridge, Sept. 16: The lode in rise in back of adit level continues to yield 1½ ton of blende per fathom. I think we shall communicate with the intermediate level before the end of next week, when I expect to find some good stoping ground. In the trial rise on Foxpath the lode is 4 ft. wide, yielding 8 cwts. of lead ore per fathom. Nothing has been done on this lode, east of Foxpath workings, with the exception of a few fathoms driven on its course where intersected by a cross-cut driven south from Nant Glas upper adit; there are upwards of 50 fms. of cover over this point, and the surface rises in going west to Foxpath workings, which are 170 fms. distant from the rise. I have agreed for a storehouse in Aberystwith for the ore, and have commenced to send the blende down. I will send you sample this day week.

ROMAN GRAVELS.—A. Waters, Sept. 21: There is no change worthy of remark here since my last week's report. The surface work is going on regularly. We have sold to-day 220 tons of lead ore for 3598l. 6s.

ST. PATRICK.—Wm. Francis, Sept. 20: In driving on the vein, east from sump, under the 120 yard level, good stones of ore are still being met with; and the vein assumes in every respect a very promising appearance. The 120 yard cross-cut north is progressing satisfactorily, in favourable ground for driving in the cross-course, which is loose for 7 in. wide, containing gossan and other congenial compounds. There is a little improvement in the 90 yards cross-cut north, the cross-course being a little less pinched; and I fully calculate upon a further favourable change here shortly. The 60 yard cross-cut north is still in the same congenial chert measures, with the finest indications, and the stratum a little more compact than it has hitherto been.

SOUTH CONDURROW.—Wm. Rich, Wm. Williams, H. Abraham, Sept. 19: We regret to state that one of the stamps axles broke down last week, consequently we cannot work the outside axle adjoining it, therefore 32 heads of stamps are idle. We hope, however, to have a new axle delivered on the mine in a day or two, which will be set to work as quickly as possible. The new shaft will be made for hauling in a day or two at the 40, when we shall urge on the 40 east. The 50 west is worth 6l. per fathom. The 60 west is worth 10l. per fathom. The lode in the back of the 60 is worth 40l. per fathom. We are forcing on the 70 cross-cut north by six men to intersect the lode. The 82 west is in favourable ground for driving. The 82 east is worth 11l. per fathom. The 94 west is worth 9l. per fm. The boundary shaft is in course of sinking below the 22. The adit end, west of Junction shaft, yields a little tin.

SOUTH DARREN.—J. Boundy, W. H. Boundy, Sept. 20: Setting Report: The 100 to drive east from the winze, by six men, at 12l. 10s. per fathom; the lode is small and poor at present. The depth of the shaft below the 90 is 6 fms. 5 ft. 6 in. The 90 to drive west, by six men, at 13l. per fathom; the lode is 2½ feet wide, worth 22l. per fathom. To stope the back over the 90, by four men, at 85s. per fathom; the lode is 2½ feet wide, worth 10l. per fathom. To stope the back over the 90, west from ditto, by four men, at 85s. per fathom; the lode is 2 ft. wide, worth 12l. per fathom. To stope the back over the 90, west from ditto, by six men, at 85s. per fathom; the lode is 2 ft. wide, worth 10l. per fathom. To stope the back over the 90, west from ditto, by eight men, at 85s per fathom; the lode is 3 ft. wide, worth 18l. per fathom. The 80 to drive west, by six men, at 13l. per fathom: we have here a very strong, promising lode, and likely to improve as we go on, now worth 18l. per fathom. To stope the back over the 80, by four men, at 80s. per fathom; the lode is 3 ft. wide, worth 10l. per fathom. To stope the back over the 80, by two men, at 80s. per fathom; the lode is 2 ft. wide, worth 6l. per fathom. The 70 to drive west, by four men, at 10l. 10s. per fathom; the lode is poor, and not sufficient to value. The depth of the winze below the 70 is 8 fms. 2 ft. To stope the back over the 70, by four men, at 80s. per fathom; the lode is 3 feet wide, worth 10l. per fathom. We are busily engaged in fixing the posts, &c., for the new jiggers.

SOUTH ROMAN GRAVELS.—John W. Powning, Sept. 21: Shelfield: The ground at the engine-shaft is improving a little, and better progress has been made during the past week. The present depth below the 30 fathom level is 9 fms. 3 ft.

SOUTH TOLCARNE.—Joseph Vivian and Son, J. Paull, Sept. 21: In the 50 cross cut we have now driven about 9 fms., and have not yet intersected the lode; the rock is porphyritic, highly crystalline, and very hard, the price for driving the cross cut being 17l. 10s. per fathom. In the 40, west of cross cut, the lode is 2 ft. wide, producing malleable copper, in a matrix congenial for the production of both copper and tin ores. In the rise in the back of the 40, east of cross-cut, the lode is 6 ft. wide, and producing tin worth about 10l. per fathom; price for rising 2l. 10s. per fathom, and 1s. in 20s. tribute. In the stope west of the rise the lode is 2 ft. wide, and worth about 6l. per fathom.

TALYBONT.—T. Glanville, Sept. 18: No. 2 Lode: The winze sinking below the 10, near the footway, is down 6 fms. 2 ft.; the lode continues to be of the same character as for some fathoms sunk through, yielding silver-lead ore of rich quality. The winze sinking below the 10, to communicate with the rise, is down 2 fms. 1 ft., the lode in which is 18 in. wide, composed of fluor-spar, intermixed with lead ore. The rise is up above the cross-cut 2 fathoms.—No. 1 Lode: During the past fortnight the 20, west of new shaft, has been driven by the side of the lode, which we intend taking down next week. In the adit level north the lode is 2 ft. wide, yielding a mixture of lead and spar. We are dressing another parcel of ore for market.

TANKERVILLE.—A. Waters, Sept. 21: Watson's shaft, below the 167, is down 10 fms. 4 ft.; ground as usual. There are several strings or branches of ore now in the shaft which are dipping towards the lode, and likely to act as feeders to it. In the winze below the 167 west there is every indication of being near a cavity; the lode is as when last reported. The stopes are yielding ore as for some time past.

TREBEIGH CONSOLS.—J. Gifford, Sept. 21: The engine and boiler-houses will be covered in by the end of the week, and we intend lighting the fire on Saturday evening, so as to get up steam to start the engine on Monday next, when we shall commence sinking the shaft by a full pare of nine men.

TRELEIGH WOOD.—E. Hosking, Wm. Goldsworthy, Sept. 20: There is no change in the different bargains since our last. We will send on setting report on Saturday next.

VAN CONSOLS.—James Roach, Sept. 18: Murray's shaft is set to nine men to to cut down under the 25 fm. level, timber, case, and divide, and other necessary work connected therewith, including drawing water and stuff to the 25 fm. level at 7l. per fathom. Stopes in the roof of the 25 set to eight men. There is no alteration in the value of the lode since my last advice; producing carbonate of barytes as well as lead. We have put the machinery at surface in order for the forthcoming winter, and placed several shieves to support the wire rope. I intend sending out samples for the parcel of lead to morrow. There is nothing wanting at this mine but the completion of the new shaft to make substantial returns, there being a rich lode both at bottom of this shaft and also in the winze 15 fathoms west.

VRON.—S. Harper, Sept. 18: In the engine-shaft sinking below the 100 yard level there has been no change in the rock or in the lode during the past week. I hope to accomplish the sinking to the 120 by the end of this month. In sinking the winze below the 80 yard level, west of this engine-shaft, we are not producing lead ore; this may continue for a yard or two more, nevertheless I have every confidence in the sinking of this winze, as we are in the right run of the lead-bearing measures. We have rain continually, which makes our engine consume more coal; over this I have no control. All other things are going on as usual.

WEST CRAVEN MOOR.—David Williams, Sept. 20: In Blackhill level the lode is daily improving, being over 10 ft. wide, and intermixed with patches of lead ore. We are now underneath the western end of Ashworth's working, and are daily expecting to cut the run of rich ore ground alluded to in my former reports. The cross-cuts south to parallel lodes is within 3 or 4 fathoms of the first of three known lodes.—New West Shafts: The lode in the 20 fm. level north-west is without any change to notice since my last. The lode in same level south-east is between 2 an 3 ft. wide, comprised of lime-spar, barytes, and lead ore; worth of the latter fully 1 ton per fathom, and very promising for further improvement.—New East Shafts: No. 1 lode, in the 20 fm. level north-west, is 3 ft. wide, filled with gossan, spar, &c., and worth 15l. per fathom for lead ore. We have about 117 fathoms to drive to communicate this level with the 20, south east from New West shaft, and having a good course of ore in both ends, we may reasonably expect it to continue throughout the remaining distance. In the 20 south-east, upon No. 2 lode, the lode is fully 5 ft. wide, chiefly composed of gossan, barytes, and lead ore, worth about 30l. per fathom. In same level north-west the lode is 2 ft. wide, and worth about 2 tons of ore per fathom. On surface we have commenced dressing, and shall shortly have 30 tons of ore for sale.

WEST GODOLPHIN.—John Pope, Sept. 15: Setting Report: Caunter Lode: Pressure shaft, sinking below the 60, to nine men, at 30l. per fathom; the lode is 2 ft. 6 in. wide, producing tin for the length of the shaft. The 60 driving north, to two men, at 6l. 10s. per fathom; the lode is 1 ft. wide, producing low-price tinstuff. To stope the back and bottom of the 60 south, to two men, at 10s. in 1l.; the lode is 2 ft. 6 in. wide, worth 8l. per fathom, producing tin.—Wilson's: The 60 driving west, to six men, at 9l. per fathom; the lode is 6 ft. wide, worth 20l. per fathom, and producing tin. The 60 driving east, to two men, at 7l. per fathom; the lode is 1 ft. 3 in. wide, producing low price tinstuff. The 50 driving west, to six men, at 5l. per fathom; the lode is 2 ft. 6 in. wide, worth 8l. per fathom for tin. To stope the bottom of the 50 west, by six men, at 5l. per fathom; the lode is 8 ft. wide, worth 12l. per fathom for tin and copper. The 50 driving east, by two men, at 6l. per fm.; the lode is 2 ft. 6 in. wide, producing low-price tinstuff. To stope the bottom of the 50 east, by nine men, at 6l. per fathom; the lode is 10 ft. wide, worth 20l. per fathom for tin and copper. To stope the bottom of the 50 east, by four men, at 3l. per fathom; the lode is 4 ft. wide, worth 8l. per fathom for tin. The 40 driving west, to two men, at 3l. per fathom; the lode is 1 ft. 6 in. wide, worth 3l. per fathom for tin. To stope the bottom of the 40 east, by six men, at 2l. 10s. per fm.; the lode is 3 ft. 6 in. wide, worth 8l. per fathom for tin. To stope the back of the 40 east, by four men, at 3l. per fathom; the lode is 6 ft. wide, worth 8l. per fathom for tin. To stope the bottom of the 30 east, by two men, at 2l. per fathom; the lode is 2 ft. 6 in. wide, worth 4l. 10s. per fathom for tin. Boulton's shaft, sinking below the 20, to six men and one boy, at 5l. per fathom; the lode is 2 ft. wide, producing low-price tinstuff. The middle adit driving west, to four men, at 3l. 10s. per fathom, lode small; I calculate to put these men to rise against Gladstone's shaft next week. We have four men stripping the sides of the 60 west, on Wilson's lode. I have put on more men to stope, so as to get a good stock of tinstuff at surface. Our water for stamping is very little. We cannot work any water stamps by day, and only four heads by night, but the water will increase again as soon as Crenver and Wheal Abraham is full to the adit level.

WEST GREAT WORK.—Samuel J. Reed, Sept. 21: A branch or dropper has come in from the south side, in the western end, which is being taken down, and found to contain rich stones of tin; this has increased the size of the lode, which is worth 6l. per fathom for tin. I look upon the prospects in this direction as improving, and being freer of elvan we may look for further improvement below this (the 10) level. No. 2 winze is now down 5 ft. below the 10; the lode is worth 5l. per fathom, and many fathoms of ground will soon be laid open for stoping. We have begun to drive east on the great Dola lode, in the 10, having intersected it by a cross-cut south. I hope in my next to be able to report something definite as to its course, underlie, and value. Since the stoppage of the Crenver and Wheal Abraham Mines the water at our stamps has considerably fallen off; this, however, will not affect us after the winter months have set in.

WEST MILWR.—W. Francis, Sept. 20: The ground in the 70 yard cross-cut north still continues hard for driving, but the measures are all that could be desired, and the driving is being pushed as much as possible. We are in constant expectation of cutting the main Milwr lode rich.

WEST PATELEY BRIDGE.—D. Williams, Sept. 21: The lode in the new level, from the joint adit level, has improved this week, being fully 5 ft. wide, carrying a solid branch of lead ore on the south wall. The lode in the winze, below No. 2 shaft, is over 3 ft. wide, chiefly composed of gossan and lead ore, worth fully 15l. per fathom, and is daily improving as we get deeper. Other points without any change to notice this week. Will forward a detailed report next week.

WEST TANKERVILLE.—A Waters, Sept. 21: The boundary shaft is going down with fair speed. The ends, stopes, &c., throughout are yielding ore as per valuations given last week.

WEST WHEAL TOLGUS.—Sept. 21: Taylor's shaft is being sunk in killas, ground moderately easy. In the 35 west the lode is 6 ft. wide, yielding 8 tons of ore per fathom. The lode in the 115 east is 3 ft. wide, spotted with ore, but of no value. In the 125 west the lode is 3 ft. wide, poor, but the ground is easier. In No. 3 winze, under the 135 west, the lode is 7 ft. wide, yielding 8 tons of ore per fathom. In the 115 west the lode is 2 ft. wide, with very little ore. In the 95 west the lode is 2 ft. wide, of no value. The stope in the back of the 125 west is yielding 4 tons of ore per fathom, worth 30l. per fathom. The stope in the back of the 115, west lode, is yielding 4 tons of ore, worth 22l. per fathom. The stope in the bottom of the 125 west is yielding 6 tons of ore, worth 3 l. per fathom. The stope in the back of the 95 west is yielding 8 tons of ore, worth 50l. per fathom. In Richards's shaft, sinking under the 85, the lode is 5 ft. wide, producing saving work. In the 85 west the lode is large, yielding 1 ton of ore per fathom. In the 75 west the lode is 5 ft. wide, principally spar, with spots of ore. The cross-cut north, at the 55 west, is driving, in killas, to cut the north part of the lode. We sampled 387 tons of ore yesterday.

WHEAL CREBOR.—J. Andrews, Sept. 19: There is no change in the 120 east. The lode in the 108 east is 5 ft. wide, worth 25l. per fathom. The lode in the 72 east continues large, but is still unproductive. The lode in the 48 east yields occasional stones of ore, but nothing to value. The two stopes in the back of the 48 are respectively worth 10l. and 15l. per fathom.

WHEAL GRENVILLE.—T. Hodge, Sept. 20: Western Shaft: In the 160 east end we are passing through a great wide lode, worth for tin fully 9l. per fathom, and likely to improve. The 150 east end is worth 9l. per fathom. The 130 east end is worth 7l. per fathom.—North Shaft: The 130 east end is worth 9l. per fm. The stopes, on the whole, are turning out much as usual, producing fair quantities of tin. The stope in bottom of the 130 holds good, worth over 20l. per fathom. Everything at present is going on fairly at the mine. The appearance of the dressing-yard to-day speaks favourably for a good sale next time; at all events, we shall have more than we had last.

WHEAL KITTY (St. Agnes).—S. Davey, Richard Harris, Sept. 16: New Shaft, Pryor's Lode: The lode in the 154, driving north, is without any material alteration; worth for tin 7l. per fathom. The lode in the 142, driving west of shaft, is worth for tin 10l. per fathom. The lode in the 142, driving east of shaft, is at present disordered by a cross branch, which lessens the value, but eventually when out of its influence we look for an improvement. The lode in the rise in the back of the 142, west of shaft, is worth for tin 10l per fathom. The lode in the 130, driving west of shaft, is worth for tin 13l. per fathom. In the 65, west of shaft, the lode is thrown south by a gossan, in which direction we are driving in order to reach it as soon as possible. The lode in the 100, driving west of sump shaft, is worth for tin 13l. per fathom. The lode in the 90, east of engine-shaft, is worth for tin 7l. per fathom.

WHEAL UNY.—William Rich, William Bennetts, Matthew Rogers, Sept. 16: The lode in the bottom of Hind's engine shaft is worth 20l. per fathom for the length of the shaft. The lode in the 160 west is letting out more water, and carries stones of tin. The 150 west is worth 12l. per fathom. The ground is easier in the 150 cross cut north. The 140 end, east of King's, is worth 12l. per fathom. The 120 east is worth 10l. per fathom. The 110 east is worth 10l. per fathom. We have sold to day 15 tons 9 cwts. 1 qr. 9 lbs. of tin, the produce of the past fortnight.

WILLOUGHBY.—H. Nottingham, Sept. 21: The No. 4 winze is now in course of sinking below the 13 fm. level; the lode is not so productive as it was, but I expect to see it improve when we get through the bed we now have in the bottom. The stope working over this level, south of No. 4 shaft, is yielding ½ ton of lead and the same of blende to a fathom. The winze sinking under the 6, in advance of the 13 end, is worth 15 cwts. of lead per fathom; in a loose, kindly looking lode. The 6 end, driving south, to communicate with No. 5 shaft, shows the lode to be in a very disordered state, similar to what is seen in the shaft. It is so irregular here that we cannot tell what the actual position of it is till this driving is through to the shaft. We are keeping the wheel going regularly now, pumping, &c., and expect to have the bottom of the mine clear of water at the begining of the week, when we shall commence at once to clear the stuff that is lying broken in the bottom levels, and resume the sinking of engine-shaft, driving of levels, &c. We have cleared a heap of the waste toppings away from the end of the dressing floors, to enlarge and make some improvements for the dispatch of stuff on the floors, by which I expect to pass more stuff at the same cost as now. We have also made a small reservoir above the floors for supplying water for dressing purposes. We hope to have 25 tons of lead for our usual sampling next week.

WHITEHAVEN IRON MINES.—T. Rosewarne, Sept. 14: Agent's Report for five weeks, ending Sept. 2: The stope in the back of midway drift, south of No. 2 rise, has been worked on contract 2 fms. 3 ft. at 1l. 5s. per fathom, by two men. The side level in midway has been driven 9 fms. 3 ft. 4 in., by four and six men, at 1l. 10s. per fathom. The stope in back, north of No. 2 rise, has been worked 7 fms. 6 in., by two and four men, at 15s. per fathom; the vein of ore in this stope is falling back a little more towards the main footwall of the lode, and is improving in quality. The rise in the back of No. 1 drift has been worked 1 fm. 2 ft., by two men, at 7l. per fathom. This is now standing idle for want of men. The stope in the back of the intermediate has been worked by four men, on daywork. The lode is large, but at times mixed much with lumps of granite, and requires to be carefully picked. A stope in the back of the No. 2 drift has been worked 8 fms., by four men, at 3l. and 4l. 10s. per fathom; the lode is very good. I am having a rise put up from this stope to the level above as fast as possible for ventilation. We have about 9 ft. to go through, and as soon as this is completed, which will be in about a week, we shall be able to put in six or eight men more, and take away the ore much cheaper and faster. Nos. 1 and 2 stopes in the back of No. 3 drift have been worked 13 fms. 1 ft. 4 in., by four men, at 2l. 10s. per fm. The lode is large and very good. In taking down the eastern part of the lode we have discovered that there is more ore standing back in the side. We have two men now employed on daywork in stripping down the ore to prove its width. The new stope in the bottom of No. 3, south of No. 2 rise from No. 4 drift, has been worked 5 fms. 6 in., by two men, at 3l. per fathom. This stope is mixed with a good deal of stone. I have taken the men away, and have put them to open a new stope at the other end of the rise, where the lode is opening out very good. The new stope in the back of No. 3 has been worked 3 fms., by four men, at 7l. per fathom. In stoping back towards Nos. 1 and 2 stopes, the lode has been very good on the footwall, but yesterday it was not looking so good, having met with a cross-head, which I think has carried the ore more into the eastern wall which we have in No. 1 and 2 stopes. The new stope in the back of No. 4 drift has been worked 6 fms. 5 ft. 8 in., by two men, at 1l. 15s. and 2l. per fathom. We have had six men stoping in the bottom of No. 5 all the month on daywork. The lode here has been mixed with a good deal of stone during the past week, but to all appearance this will soon wear out, and the lode will become as productive as ever. We have had employed during the month 32 miners, three daymen, three boys, one smith, one timberman: total, 42 men and boys.

CHEMICALS, MINERALS, AND METALS.—(Messrs. J. Berger Spence and Co., Sept. 20)—Alumina: Alum, 6l. 15s. for loose lump; ground, 7l. 15s.—Aluminous cake, 4l. 15s.—Ammonia: Sulphate, grey, 18l. 15s.; best London white, 21l. 5s.; muriate, 30l.; sal ammoniac, firsts, 45s.; seconds, 44s.—Acid: Tartaric, English, at 1s. 4½d., ground or crystal; foreign, 1s. 3½d., crystals; oxalic, 5d.; sulphuric, 3l. 10s. to 3l. 15s.; picric acid, 1s. 8d. per lb.—Arsenic: 10l. 10s.—Bleaching Powder: 8l.; for whole of 1876, 6l. 5s. to 6l. 15s.—Litharge: Best flake, 24l.—Metallic Salts: Iron salts, green and rusty copperas, 55s.; in casks or barrels, 60s.—Copper Salts: Sulphate of copper, 23l. 10s.—Magnesia: Epsom salts, 3l. 17s. 6d.; refined, 4l. 10s.—Nitrate of Soda: 12s.—Potash: Muriates, 80 per cent., at 6l. 8s. 6d. f.o.b.; Prussiate, yellow, 11d.; chlorate, 8½d.; bichrome, 4½d.—Soda: Cream caustic, 60 per cent., 11l. 17s. 6d.; white, 60 per cent., 12l. 7s. 6d.; soda ash, 1½d. to 1 13-16d.; soda crystals, 4l. 10s.; bicarbonate, 10l. 15s.; salt cake, 2l. 15s.; Glauber salts, 2l. 17s. 6d.—Sugar of Lead: Brown, 25l.; white, 37l. 10s.; grey, 31l.—Brimstone: Best thirds, 5l. 17s.—China-clay: 15s. f.o.b Cornwall; "Rosemellyn," 24s.; "BM," 34s.—Iron Ore: Hematite, 15s. to 22s. 6d.; oolitic, 8s. to 10s.; Algerian, 50 p. c., 23s. to 24s., c.f.i. U.K.—Manganese: Ores, 90s. for 70 per cent.—Pyrites: Spanish cupreous, 6½d.; non-cupreous, 6¼d.—Phosphate of Alumina, 3l. to 3l. 10s. per ton.—Phosphates: High strength, 80 to 85 per cent., 1s. 4d. to 1s. 5d. per unit; Estremadura, 1s. 3d.; ordinary, 60 per cent., 1s.; precipitated phosphate of lime, 70 per cent., 8l. 15s.—Copper: Chili bars, 71l.; B.S. ingot, 77l.; tough cake, 76l.—Iron: "Ayresome" Yorkshire Pig-iron: No. 1, 49s.; No. 2, ———; No. 3, 45s. 6d.; No. 4 (foundry), 42s. 6d.; No. 4 (forge), 42s. net cash, or 1s. extra four months' bills; Scotch

*** With this week's Journal a SUPPLEMENTAL SHEET is given, which contains: Original Correspondence. Mining in Queensland; Mining in Corsica (J. Richards); St. John del Rey Mining Company; Chontales Mining Company; Flagstaff Mine; the Emma Silver Mining Company; Rock-Boring Machinery; Rock-Boring; the "Subsidised" Rock-Borer; the Smoke Nuisance; Cornish Manganiferous Ore; Nascent Copper Company (T. H. Miller); Cornwall as a Field for Investment (E. Skewis); Dividend Lead Mining at Home (R. Tredinnick); East Goginan Mine; New Consols; Wheal Grenville (F. G. Lane); Premiums for Mines (R. Symons); Outlet for Capital (R. Symons); Monthly Pay Days and Setting Days; British Mining—Shareholders, Look to your Interests; South Wheal France—Foreign Mining and Metallurgy—On the Alleged Safety of Tonite—Visit of Members of the British Association to the British Dynamite Works, Stevenston—the British Iron Trade Association—The Hull Hydraulic Power Company—Corundum—"The Intercolonial"—The Will of a Wealthy Copper Smelter—The Swedish Iron Manufacture—Department of Public Works in India—the Van Mines, Monthly Report—the Almada and Tirito Consolidated Silver Mining Company (Limited)—Exchequer and I.X.L. Gold and Silver Mining Companies—Foreign Mines—A Miniature Railroad Train—Meetings of South Carn Brea, Cwm Dwyfor, and West Craven Moor Companies, &c.

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The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, SEPT. 22, 1876.

IRON.	£ s. d.	£ s. d.
Pig, GMB, f.o.b., Clyde..	3 16 9-	—
„ Scotch, all No. 1	2 16 0-	3 7 6
Bars, Welsh, f.o.b. Wales	5 15 0-	6 0 0
„ „ in London.	6 10 0-	6 15 0
„ Stafford., „ .	5 0 0-10	0 0
„ in Tyne or Tees	6 0 0-	—
„ Swedish, London ..	11 5 0-11	10 0
Rails, Welsh, at works..	5 2 6-	5 5 0
Railway chairs	— -	—
„ spikes	— -	—
Sheets, Staff., in London	9 15 0-10	0 0
Plates, Staff., in London	9 10 0-10	0 0
Hoops, Staff.	8 15 0-	9 0 0
Nail rods, Staff. in Lon.	7 10 0-	7 15 0
STEEL.		
English, spring	14 0 0-23	0 0
„ cast	25 0 0-45	0 0
Swedish, keg.....	15 10 0-	—
„ fag. ham.	17 10 0-	—
LEAD.		
English, pig, common .	21 2 6-21	5 0
„ „ L.B.	21 5 0-21	10 0
„ „ W.B.	22 10 0-	—
„ sheet and bar..	22 5 0-22	10 0
„ pipe	22 15 0-23	0 0
„ red	23 0 0-	—
„ white	28 0 0-	—
„ patent shot ...	25 0 0-25	10 0
Spanish	20 5 0-20	10 0
QUICKSILVER.		
Flasks of 75 lbs., ware.	8 0 0-	—
SPELTER.		
Silesian or Rhenish ..	22 15 0-	—
English, Swansea	23 10 0-	—
Sheet zinc	27 0 0-	29 0 0

TIN.	£ s. d.	£ s. d.
English, ingot, f.o.b...	76 0 0-	—
„ bars „ ...	77 0 0-	—
„ refined.....	78 0 0-	—
Australian	70 10 0-	—
Banca	71 0 0-	—
Straits	71 0 0-	71 5 0
COPPER.		
Tough cake and ingot.	76 0 0-	—
Best selected	77 0 0-	—
Sheets and sheathing.	82 0 0-	83 0 0
Flat Bottoms	86 0 0-	—
Wallaroo	77 0 0-	—
Burra, or P.C.C.	76 0 0-	—
Other brands	74 0 0-	74 10 0
Chili bars, g.o.b.....	71 0 0-	—
PHOSPHOR BRONZE.		
Bearing metal	£112 0 0	
Other alloys	£120 0 0-	140 0 0
BRASS.		
Wire	8½d.-	8¼d.
Tubes.....	9	-12
Sheets	8¾	-9¼
Yel. met. sheath. & sheets.	7½	- 7½
Nails composition.....	8	-10

TIN-PLATES.*	per box.	
Charcoal, 1st quality ...	1 6 0-	1 7 0
„ 2nd quality ...	1 4 6-	1 5 6
Coke, 1st quality	1 1 0-	—
„ 2nd quality	0 19 6-	1 0 0
Black .....per ton	17 0 0-	17 10 0
Canada, Staff. or Gla., at Liverpool	13 0 0-	13 10 0
Black Taggers, 450 of 14 × 10	30 0 0-	—

* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; IX 6s. per box more than IC quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

REMARKS.—The first grand preliminary step towards the accomplishment of peace has been gained by the mutual consent of Turkey and Servia to an armistice for 10 days, and the great European powers have now simply to arrange such terms as will prove equitable and honourable to the parties concerned, and to do their best to protect Europe for the future from a repetition of similar outrages and disturbances. Wisdom will most assuredly overcome all fears and jealousies, and the negociations can scarcely fail to terminate successfully. The only serious obstacle to the recovery of business has been the prevailing feeling of distrust and suspicion in relation to the difficulties which possibly might have arisen out of this eternal Eastern question, but since it assumes a more promising appearance it will probably not be long before confidence is fully restored, and an unprecedented expansion of commerce ensue, as soon as a satisfactory settlement of the pending question is announced a great impetus will be given to trade as the course will then be clear and free from all obstructions. A long time has elapsed since the commencement of the decline of our markets, and during this period various extensive undertakings, both at home and abroad, have been abandoned, and consequently there has been a postponement of nearly all the new designs. Contractors, finding a general suspension of work taking place, have been limiting their purchases to the actual requirements of the day, their stocks must necessarily be light, if not wholly exhausted. There will, consequently, be large supplies needed, not only to finish the works already in course of formation, but for those which are not as yet put in hand. A great deal of work, in fact, remains to be made up, and it may fairly be anticipated that in proportion to the decrease in the demand a corresponding increase will at least take place. There is every prospect of a great improvement in the demand, and if the demand be good prices are likely to improve also, and one very important feature in favour of this following quickly is the present comparatively low value of metals, for while it affords protection against any material loss, it at the same time ensures a good prospect for an ultimate profit, and under these particularly favourable auspices no better time could be selected for effecting purchases.

Stocks of some metals naturally have been accumulating here during the depression, but that is of very little consequence while the facilities of finance continue so great; besides, they will soon diminish when trade revives, providing prices are not advanced too rapidly. As the population of the world increases, as the wealth of the nations increases, as civilisation advances, and as the industrial and scientific pursuits of the people extend, an annually increasing demand must spring up to meet these extra wants and new order of things, and unless the spirit of enterprise has died out, and the energies of our race are extinct, there is no occasion to despair, or reason to think that England will not participate largely in a share of the forthcoming prosperity. The commercial and financial state of America is represented to be greatly improving, and as that country is a large and growing consumer of copper and tin, as well as of other metals, it must exercise an essential influence over the markets on this side of the Atlantic, and make a sensible impression upon prices. Our colonies in Australia, New Zealand, and the Cape are increasing in their requirements, and large supplies will have to be forwarded to India and China. The markets for copper and tin are no doubt on the eve of a rise, and consumers would do well to effect contracts ere the movement renders it too late to buy; both these metals might very well be placed about 10*l.* per ton above their present value, and buyers must not delay the execution of orders if they wish to provide against the coming advance.

COPPER.—The present low price of this metal offers considerable inducement for consumers to lay in large stocks; and, as the chance may not again present itself for many years to come, it will be very unwise if they do not avail themselves at once of this exceedingly favourable opportunity. The quantity of copper in consumers' hands is estimated as being very light, and it is by no means excessive in first hands; and, indeed, considering how long business has been dull, it is somewhat astonishing that the accumulation has not been much greater; but this is pretty accounted for by the falling off in the importations, which show a decrease of about 1200 tons in comparison with that of last year up to the end of August, and an increase of shipments of about 500 tons; and, when this is taken into connection with the seriously diminished production of English, there being less than one-third raised in this country compared with that of some 15 years ago, it certainly does seem most remarkable that the value is not considerably higher; but the principal reason of the depreciation has simply arisen in sympathy with the great fall in produce generally; and as soon as confidence is restored this metal will, no doubt, be one of the first to benefit by an important rise. The decline in value has rendered the working of the English mines unprofitable, and in the same way, in process of time, mining abroad must be similarly affected. Investors are not likely to embark in any new mining enterprise unless there is a very good prospect of profit, and the abandonment of mines in England and elsewhere at the present time is the strongest evidence that could be produced of the probability of incurring loss by such a venture.

The price of copper must advance, or the production will diminish to a greater extent both in England and Chili, and the market must, sooner or later, right itself. The Wallaroo sale, on the 26th inst., ought to go off well, and there are three things in its favour—first, the quantity to be offered is less than last time; secondly, the next sale is fixed at a longer interval than hitherto; and, thirdly, because the convenience of small consumers has been specially provided for by making the lots in 5 and 10 tons instead of 10 and 25 ton lots. This last arrangement should excite a lively competition, and the bidding ought, therefore, to be much improved, and higher prices realised. The demand has been so good for this description of copper that there is a mere bagatelle left in warehouse from last sale, and it is stated that the quantity arrived for the January sale is extremely small. Burra Burra, Chili, and English will probably be all benefited by the result of the sale, and sellers, instead of looking forward to it with apprehension, expect much good from the stronger tone that will hereafter prevail.

IRON.—No alteration to report in the general condition of our market; the demand continues as limited as it has been for some considerable time past, and at present there is no evidence of a coming change. With the exception of occasional indents, which appear to be more for the purpose of assisting existing stocks than to meet any additional source of consumption, there is next to nothing doing, and the whole trade is evidently in a most languid and declining state. Although the shipments of pig-iron are greatly below those of last year yet this branch of the trade has not suffered to the same extent as manufactured. The season, however, is advancing, and within the next two months the autumn shipments will have been concluded, and it is very questionable after that time whether prices can be maintained. The winter months will certainly be the test of the market, but there seems little doubt about business reviving enough to sustain the market. A reduction in the price of pig-iron would necessarily enable makers of manufactured to sell at lower rates, and this is urgently required. The orders for merchant iron are very limited, and a number of them are still sent to Belgium to be executed on account of the lower prices ruling there. Our prices ought certainly to be immediately brought down at least to the level of foreign houses, but it would be preferable if they ruled below, and could be kept back for a certain time, so that buyers should realise an advantage by returning again to home supplies.

The first and most important matter in connection with the iron trade is the cost of fuel, and unless coals can be produced cheaply we cannot compete successfully with other countries in the manufacture of iron. At present there is no deficiency in the supply of coals that their value should be enhanced, and the demand must be considerably lessened, owing to so many mills being either partly or entirely closed. This should produce its legitimate effect, and influence the colliers and proprietors to more mutual concessions—the former to work at a lower scale of wages, and the latter to be satisfied with less profit. The manufacturing power of the country would soon again be in motion, and with full employment there would be contentment, but if masters and men will continue to persist in an obstinate refusal to conform to the necessities of the times, they will have to endure suffering and losses for a much longer period. The winter might be got through safely if they would only at once agree to make the necessary alteration—an alteration which there is little doubt will eventually have to be made, and any delay will incur greater sacrifice and misery to themselves. In Scotch pigs there has been a tolerably steady market, mixed numbers being mostly quoted about 56s. until to-day, when the price has suddenly advanced to 56s. 9d.

SHIPMENTS.

Week ending Sept. 18, 1875 ..... Tons	11,501
Week ending Sept. 16, 1876	10,303
Decrease	1198
Total decrease for 1876	75,791

LEAD.—The market keeps quiet, and prices are slightly lower.

QUICKSILVER.—The former price of 8*l.* is still maintained.

TIN.—The sales this week are of an unimportant character, but prices have been steadily upheld. The result of the Dutch sale of Banca, on the 27th inst., is looked forward to with some degree of interest, and the price realised will doubtless exercise an influence upon the future of our markets. There is a large quantity supposed to have been "beared," in the hope of covering in at a lower figure; but the sale is not at all unlikely to go off at a much higher figure than the "bears" imagine, as the prospects of trade, not only here but in America, are beginning to assume a brighter aspect, and it is expected that there will presently be an immense demand for tin, as the price is so extremely low that it cannot fail to greatly stimulate consumption.

THE IRON TRADE.—(Griffiths's Weekly Report).—Friday Evening: The Glasgow market for Scotch pig-iron has been firm during the week with a slightly upward tendency. The price of G.M.B. at the close to day was 56s. 9d., being an advance of 9d. per ton since this day week. Prices of makers' iron are mostly advanced 6d. to 1s. per ton, as will be seen by our quotations:—Gartsherrie, 64s. 6d.; Coltness, 68s.; Calder, 65s.; Langloan, 66s.; Summerlee, 60s. 6d.; Monkland, 57s., f.o.b. Glasgow; Glengarnock, 62s. 6d.; Eglinton, 56s., f.o.b. Ardrossan; Shotts, 65s., f.o.b. Leith; Kenniel, 57s. 6d., f.o.b. Bo'ness. The past week has been a dull one for the commercial part of the trade, but a very bright and interesting period for those who have been attending the autumnal session of the Iron and Steel Institute at Leeds. We have no new feature in the trade to report this week; business has, undoubtedly, been restricted by the absence of so many leading members of the trade who have spent the week in Leeds.

During the past week three blast furnaces have been blown out in the Cleveland district, and three furnaces at Bedworth, which have been idle for 18 months, have been blown in. Messrs. Williams will blow in one of the furnaces at Parkfield, near Wolverhampton, to morrow (Saturday). This will increase the number of furnaces in blast in the South Staffordshire district to 57. In the Middlesborough district there is little change to notice. There is rather more demand for pig iron, and the prospects of more furnaces being blown out tends to harden prices, though at present there is no quotable change. With reference to the affairs of Thomas Vaughan and Co., at the meeting of creditors yesterday it was resolved to liquidate the estate by arrangement. The claims of the unsecured creditors amount to 136,272*l.*, and the creditors fully secured, 970,798*l.*; the value of securities is set down at 1,234,344*l.* This, of course, would show a large surplus if the before mentioned "securities" could be realised for the benefit of the creditors. Mr. Robert Fletcher, of London, and Mr. W. H. Blackburn, of Bradford, are appointed trustees. There is no new feature in the tin-plate trade. Prices are firm, simply because plates cannot be made for less money than they are now fetching.

COPPER.—Messrs. HARRINGTON, HORAN, and Co. (Liverpool).—Arrivals here during the fortnight of West Coast, S.A., produce:—Liguria, from Valparaiso, 1042 tons bars, 125 tons ingots; Iota, from Pan de Azucar, 8 5 tons ores. Swansea, nil. Stocks of copper (Chilian and Bolivian) in first and second hands, likely to be available, we estimate at—

	Ores.	Regulus.	Bars.	Ingots.	Barilla.
Liverpool	—	894	8,972	401	—
Swansea	545	4013	2,507	—	—
Total	545	4817	11,479	401	—

Representing about 14,157 tons fine copper, against 13,863 tons Aug. 31; 13,475 tons Sept. 15, 1875; 17,100 tons Sept. 15, 1874; 21,400 tons Sept. 15, 1873. Stock of Chili copper in Havre, 6525 tons fine. Stock of Chili copper afloat and chartered for to date, 11,120 tons fine. Stock of foreign copper in London, chiefly Australian, 4350 tons fine.

According to the Board of Trade returns, the total imports and exports into and from this country for the first eight months of the following years were:—

IMPORTS.	1874.	1875.	1876.
Copper in ores .....Tons	4,911	5,169	7,075
Ditto, regulus	8,859	10,408	9,904
Ditto, bars, cakes, and ingots	27,143	28,353	25,438
In pyrites (estimated).....	9,305	9,435	9,687
Total imports.....	50,518	53,365	52,104
EXPORTS.			
English copper, wrought & unwrought	14,274	14,303	14,840
Foreign copper, unwrought.....	16,556	10,006	11,188
Yellow metal	9,465	9,212	7,989
Total exports	40,295	33,521	34,017

According to the Statistical Abstract, just published, of the quantity of minerals and metals raised in the United Kingdom, the production of fine copper from British ore shows a marked decline. In 1861 the quantity was 15,331 tons, while in 1874 it fell to 4981 tons, and, in all probability, the next reports will show a still further decrease. According to advices from Valparaiso the comparative exports of fine copper from Chili and Bolivia to all parts of the world during the first six months of the following years were—1876, 25,695 tons; 1875, 22,378 tons; 1874, 23,241 tons; 1873, 19,668 tons; 1872, 25,281 tons; 1871, 19,381 tons; 1870, 26,416 tons. The relative proportions of the different descriptions of copper being—

	1876.	1875.	1874.	1873.	1872.	1871.	1870.
Bar copper.. p. ct.	78·21 ...	74·29 ...	72·40 ...	68·86 ...	73·89 ...	53·78 ...	52·19
Copper regulus	18·41 ...	19·07 ...	21·75 ...	26·24 ...	25·17 ...	42 53 ...	45·05
Copper ore	3·38 ...	6 7·4 ...	5·845 ...	6·90 ...	0 94 ...	3·69 ...	2·76
	100	100	100	100	100	100	100

MESSRS. SANDFORD and BIRD.—Copper is rather better in price, with a moderate business.—TIN has improved fully 10s. per ton during the past week, and is steady at our quotations.—LEAD rather lower.—ANTIMONY quiet.

A moderate amount of business has been transacted in the MINING SHARE MARKET since our last, but prices, or rather quotations, remain without any material change.

At the Cornish Ticketing, on Thursday, the standard for copper ores advanced 13s. per ton. The average price obtained for the ores was 3*l.* 15s. 6d. per ton.

The mines dealt in to a small extent this week include Roman Gravels, Tankerville, Rookhope, Glenroy, Great Laxey, North Laxey, Van Consols, Glyn, Van, East Van, West Chiverton, South Caradon, Devon Great Consols, Pennerley, Plynlimmon, Clementina, Ladywell, and a few others.

Roman Gravels, 13⅜ to 13½; the month's ore, 220 tons, realised 319*l.* 5s. No change has take place in the mine. A new company—the Roman Boundary Mine Company—has been formed, with 25,000*l.* capital, to work the adjoining mine into which the Roman vein runs. Tankerville, 10¼ to 10⅜; Watson's shaft is down 10 fms. 4 ft. below the 167, with several bunches or strings of ore in it, and dipping towards the lode. West Tankerville, 1½ to 1⅝; no change has taken place here. East Van, 9¾ to 10¼; Tempest shaft is down 50 fathoms. The 25 west looks very promising. Van Consols, 1⅝ to 1⅞; Glyn, 3 to 3¼. Great Laxey shares have risen to 19, 20. Glenroy, 4 to 5; the agent telegraphs that the stopes in the 40 are without change, producing good blende. The cross-cut in the 50 has been driven 5 ft., and the lode still before it. Ladywell, 25s. to 30s.; in No. 3 shaft there is a lode 6 ft. wide, yielding rich blue and white ore in paying quantities, and a remarkably fine-looking lode for the depth.

Pennerley, 1¼ to 1½; the lode in the bottom of the 120 east is worth 3 tons of lead ore per fathom. The sampling is 70 tons of lead ore, for sale on the 27th. North Laxey, ⅝ to ¾; the 136, or the bottom level, continues to open out a large lode from 3 to 4 ft. wide, and producing saving stuff for lead. Plynlimmon, 5s. to 7s. 6d.; Pateley Bridge, 3⅜ to 4; Great West Van, 10s. to 12s. 6d.; Aberdaunant, 10s. to 15s.; Carn Brea, 31 to 33; Dolcoath, 31 to 33. Marke Valley, 1⅜ to 1⅝; the sale of ore on Thursday realised 115*l.* Devon Great Consols, 2½ to 2⅝; there is nothing new here. The month's sale of copper ores (727 tons) realised 9880*l.* Wheal Crebar, 2½ to 3¼; the lode in the 108 end east is worth 25*l.* per fathom. Prince of Wales, 4s. to 5s.; a winze has been commenced below the 55 fm. level in a lode worth 20*l.* per fathom for copper ore. Perran Mountain, 12s. to 14s.; no change here. A portion of the unissued shares are to be allotted *pro rata* to present holders, at the rate of about one share for five now held, at 10s. each, 3*l.* paid up.

Trumpet Consols; at the meeting the accounts showed a debit balance of 147*l.*, the costs being charged to July 22 only. The tin sales, 50 tons, realised 2562*l.* Ding Dong showed a loss of 691*l.* in four months' working, and a call of 1*l.* per share was made. Wheal Grenville, 10s. to 15s.; in the 160 east the lode is worth 9*l.* per fm. Stope in bottom of the 130 holds good; worth over 26*l.* per fathom. The agent hopes the next sampling will be larger than the last. Pennant, 5 to 5½. Penstruthal, 11 to 13. New Rosewarne; at the meeting on Thursday a call of 5s. per share was made, and a resolution passed to suspend all operations, and offer the mine and machinery for sale in one lot as a going concern. This plan has been rendered necessary through the disinclination of the holder of nearly one-third of the mine to carry on so large an interest any longer. South Caradon, 115 to 125; the sale of copper ores on Thursday realised 2693*l.* South Roman, 1 to 1¼.

Assheton, ½ to 1; West Chiverton, 17 to 18. Clementina Lead, 20 to 30 per 128th; operations have been commenced here, and good results anticipated at any early date. Van, 37 to 38; the month's sale here is 500 tons of lead, 7127*l.* 10s.; blende, 200 tons, 720*l.*; total, 7847*l.* 10s. South Carn Brea, ⅜ to ½; at the meeting, on Thursday, a call of 4s. per share was made. The accounts showed a loss of 907*l.* on four months' working, and a debit balance of 1067*l.* The returns of tin and copper produced 746*l.*, and the costs are only charged up to July 29. Grogwinion, 5 to 6; Wheal Agar, 2¼ to 2⅜; Wheal Uny, ⅞ to 1; South Condurrow, 4 to 4¼; New Consols, 1 to 1⅛.

Cape Copper, 35 to 40; the directors have declared a dividend of 1*l.* per share, payable on the 23rd. Santa Barbara, 2 to 2½; the advices for the month of July show a profit of 733*l.* 12s. 7d. The gold returned was 4073 ozs., valued at 1731*l.* 0s. 6d. Costs for same period, 997*l.* 7s. 11d. The shaft had been sunk 8ft. on the lode during the month, and the lode had become more mineralised and promising in appearance. Cedar Creek, 10s. to 15s.; Chontales, 5s. to 10s.; Eberhardt and Aurora, 8½ to 9; I.X.L., 17s. 6d. to 22s. 6d.; Chicago, 5½ to 6.; Quebrada, 3¾ to 4; Javali, 9s. to 11s.; Pestarena, 5s. to 7s. 6d.; Richmond, 9⅜ to 10½; Sweeland Creek, 5s. to 7s. 6d.; Argentine, 5½ to 6. Condes, 5 to 5½; a telegram has been received from the manager that he has resumed operations for the season, and that the lode is turning out equal to his expectations. Kapanga, 2¾ to 3; a telegram has been received from New Zealand announcing that the lode is turning out 1½ oz. of gold per fathom, and a demand has existed for the shares in New Zealand.

The Market for Mine Shares on the Stock Exchange continues to be entirely without legitimate business, few transactions taking place except amongst the dealers themselves, and in the hope of creating some animation. The Richmond is again prominently referred to in a circular issued this evening by Mr. Pulbrook, which will be presently noticed; and quotations for the shares have been somewhat restored during the week. The efforts to create a movement in other concerns have been fruitless, and the realisation of reports, however glowing, and by whoever supplied, has been so rare, that few are now inclined to place reliance in anything. British mines show some improvement; the ancient Lead Hill property, in Scotland, is to be worked by a company with 120,000*l.* capital. The whole amount has been taken up by a syndicate, the members of which will re-sell to the public as opportunity offers. It is stated that 100,000*l.* was actually paid for the property, and that the company purchases for 105,000*l.*, leaving 15,000*l.* working capital. If these figures be confirmed upon investigation, capitalists may well be congratulated. No one can object to 5 per cent. commission upon the re-sale of a property valued *bona fide* at 100,000*l.* No prospectus has been issued; it is, therefore, essential that intending investors should be careful to ascertain the promises of the promoters, and the basis for their promises, so as to avoid subsequent cause of complaint. It is cordially hoped that the promoters will be able to establish such a case as will satisfy the most scrupulous.

St. John del Rey, 345 to 355; the produce for August was 39,000 ozs., yielding 7·6 ozs. per ton. The general advices come down to Sept. 16, and stated that during the two weeks preceding August 17 the usual mining and reduction operations have been continued with considerable regularity, and fair duty in proportion to the motive power available has been accomplished in both the surface and mining works. The mineral quarried and raised to the surface has been sufficient for the requirements of the stamping mills. The quarrying of the lode, but more especially the stoping down of the poor mineral left at the sides, is progressing satisfactorily. The arrears of timberwork have had a good force engaged on it, and a considerable amount thereof has been done up to date.

Condes of Chili are quoted 4¾ to 5¼. Argentine, 5⅜ to 6½; it is stated that the advices to hand are of a highly satisfactory character, but it is naturally asked if this be so why are the reports not published in the same way as those from other mines? Space will be afforded for them in the Journal if forwarded for insertion.

South Aurora, 6s. to 8s.; the secretary of the Olmeta Copper Company of Corsica has issued a circular stating that for the purpose of providing funds for working the mines the South Aurora Consolidated Mining Company (Limited) advanced 2500*l.* on a first mortgage of the whole property. This sum has already been greatly exceeded upon like security, and 7000*l.*, more capital is required for the further development of the property and erection of reduction works. The directors propose that 12,000*l.* of the 10 per cent. first mortgage debenture bonds, in sums of 10*l.* each, be created to redeem existing mortgages and to supply additional working capital. The directors propose a bonus of cent. per cent. in fully-paid shares, such bonus to be provided by each shareholder giving up 15 per cent. of their present holdings. The directors remind the shareholders that the South Aurora Company have power under their mortgage deeds to sell and dispose of the whole property in case of non-payment of their advances.

Richmond, 9¼ to 9⅜; the telegram received states the week's run at $50,000. Furnaces under repair. All now running. The refinery produced doré bars to the value of $35,000. If this telegram be interpreted that all the furnaces are now repaired, three or four months' uninterrupted running may, it is said, be expected. It is stated that the missing report of the manager for last week only arrived the same day as the one for this. The chief points of interest in them are that the Lizotte tunnel is virtually completed, being now under the winze, which can now be continued into it, and thus render accessible the large body of ore on the west hillside. The stope stated upwards from the 600 level is now carried up 150 ft.—50 ft. above the 500 level; "it is a magnificent body of ore," and the demonstration appears to be now complete that the downward workings from the 200 were in a fork or split of the main lode, and divided from it by the mass of irony ore and limestone whose unforeseen presence upset all calculations, and for many months cut down the profits so largely. The ore now available carries 25 per cent. of lead, and is thus fully up to the condition required to produce the best smelting results. The mine is looking well, and the reserves of ore have increased to a great extent during the past two months. The manager anticipates that when the temporary causes of delay are done with larger returns than heretofore cabled may be expected.

A well-considered circular, in reply to Messrs. Lythgoe and McHenry, has been issued this evening by Mr. Anthony Pulbrook, and really exhausts the subject. He shows that the extracts from the directors' reports, which are used as the basis for adverse criticism, are mutilated so as to lead to misapprehension, and publishes side by side the original and mutilated documents, remarking, as every impartial reader must feel, that "when he finds a man misquoting or suppressing portions of a report to suit his own purposes, he places no reliance whatever on what he says, and he, therefore, consigns Mr. Lythgoe to oblivion as being unworthy of credence." He traces what has been done, and estimates what may be done, in the mine by comparing the published opinions of men who are well versed in mining, and who reported upon the property in the early stages of the company's existence, with the results actually attained, and, speaking

of the present position of the mine, he says that an enormous quantity of ore has been taken away above the 200 ft. level. From that to the 400 ft. level but little has been done; a large body of ore exists between the 400 and 500 ft. levels; a still larger quantity exists between the 500 and 600 ft. levels, estimated last year by Prof. Price at 50,000 tons, equal to two years' supply for three furnaces, and subsequently confirmed by him in his report of February last. Between the 600 and 700 ft. levels a richer deposit of ore is being worked upon than the mine has ever produced, and they have gone through the body of ore again between the 700 and 800 ft. levels. In addition, there is the ore discovered in the Lizette tunnel. Thus they have the bottom of the mine in ore, and in the lower levels very rich ore has been opened on, and is being taken away, consequently they are no longer dependent upon one part of the mine being good, but have several to rely on, and they may reasonably expect further discoveries as the mine is opened up. It must be recollected that a mine is not opened up in a day, but time is necessary for the purpose.

The profits for 1873 were 38,623*l.* 7s. 11d., for 1874 they were 86,591*l.* 1s. 10d., and for 1875 they were 112,209*l.* 18s. 10d.=237,514*l.* 8s. 7d. Out of these profits—up to June, 1875—the sum of 142,670*l.* 4s. has been paid in dividends; and with the recently-paid dividend of 7s. 6d., the total actual return has been 162,919*l.* 6s., or more than half the share capital. The balance has been expended in capital account, on construction of furnaces, refinery works, &c., and written off. Inasmuch as the company owes nothing to its bullion agent, and only borrowed the sum of only 39,000*l.* on debentures, it is worse than absurd to say that it has paid its shareholders' dividends out of borrowed capital; where else could this large sum of money have come from, except from profits of the mine? In one case he complains of the directors remarking that the company necessarily requires a large turnover capital. It is not only a mining company, but by smelting and refining likewise a manufacturing company; and an amount of money must be first laid out in wages, &c., to bring its manufactured produce into the market. Until the actual coin is received for the sale of its produce the company, if it has not capital of its own, must either get credit from its bankers or borrow money to enable it to get on. From the time the ore is broken from the mine until the coin is paid for the ore bars and refined lead cannot be less than four months; hence the company requires at least a working cash capital at turnover equal to its expenditure for that period. Here the directors have been at fault. They should have foreseen this, and not commenced paying dividends until they had raised out of profits or otherwise a turnover capital. The report should certainly be read with care and attention by every shareholder.

There has been a trifling demand for Colombian hydraulic mining shares, and both Malpaso and Malabar have improved, the former being quoted 11-16ths to ¾, and the latter ½ to ½, but in other shares of this class there is absolutely nothing doing. Cedar Creek, ½ to ¾; the Yankee Tunnel is progressing well. The Baker shaft will, it is expected, be completed by the time the tunnel reaches that point. In Blue Tent, Birdseye Creek, and Sweetland Creek no transactions recorded, and nothing to report. Quotations merely nominal.

In Lead Mine shares there has been a little more animation, and the improved feeling has been availed of to place the Roman Boundary Mine Company upon the market. The prospectus will be found in another column. The company, which is promoted by an influential Liverpool connection, is formed with 25,000*l.* capital, in shares of 5*l.* each, to purchase for 9000*l.* the 21 years lease at 1-12th royalty of 118 acres immediately outside the northern boundary of Roman Gravels Mine. It is upon the Roman vein that the principal workings in Roman Gravels have always been carried on, and towards the north the workings have reached to within about 10 fms. of the boundary in a valuable deposit of ore, still following the shale in its northerly dip.

Roman Gravels at the present time is one of the principal mines of the district, yielding 200 tons of lead ore per month, and having paid 74,700*l.* in dividends during the past five years. In this mine the influence of the shale bands which cross the lodes is very apparent, for from the earliest workings to the present time the richest pipes of ore have been found in connection with the shale, uniformly following its underlie, and increasing in value as depth is attained. These shale bands are characteristic of the district. Capt. Walter Eddy considers that they have a most valuable piece of mineral ground, and one that does not require a large capital to reach the ore and develope. Capt. Enoch Parry describes the advantages of the property, and recommends an engine-shaft at from 10 to 15 fms. from the boundary, which would meet the Roman vein at about 100 to 115 fms. from surface, and afford means of exploring two or three of the other lodes, and he believes when they have accomplished that work they will have opened up one of the most extensive and richest mines in the Shropshire district. It is stated that the highly mineralised nature of the ground above the shale band has been proved. For the present, however, it is thought best to confine operations to sinking the shaft where it is known that the lead lies and will be found. Careful calculations have been made as to the time and money necessary to sink the shaft; it will probably take about 18 months, and cost, with the necessary plant and machinery, about 400*l.*

Van is quoted 36 to 38; everything is going on in the usual satisfactory manner. The sale of ore on Thursday last was 500 tons of lead and 200 tons of blende, which realised together 7847*l.* 10s. Grogwinion, 5 to 6; the recent improvements are fully maintained. Wye Valley, 5½ to 6¼; at the meeting, to be held on Wednesday, the directors will propose a dividend of 4s. 6d. per share. Their report states that the quantity of ore sold during the first 13½ months of the company's existence was—lead, 160 tons; blende, 100 tons, realising 2263*l.* 5s.; and during the year ending Aug. 31 last—lead, 500 tons; blende, 40 tons, realising 719*l.* They announce that the sales are now raised to 60 tons of lead per month, and that they believe this output will be much increased during the coming year, and the dividends enlarged in a corresponding degree. The directors desire to express their firm conviction that the future prospects of this mine are of the highest order, and that if the same ratio of improvement is maintained during the ensuing two years as in the past two years this property will become one of the most important dividend-paying mines in Wales. West Wye Valley, 3 to 4; operations going on as usual. Llanidloes, 3 to 3½; a parcel of 20 tons of lead was sold this week at 13*l.* 2s. 6d. per ton. St. Harmon, 3 to 3½; good progress is being made in driving the various levels, and with good prospects. Pennerley, 1¼ to 1½; the 130 east looks well for an improvement. The lode in the bottom of the 120 west is worth 3 tons of ore per fathom. No. 2 winze, below the 75, at Potter's Pit, is yielding 1½ ton of lead ore per fathom. Everything else is going on well, and a parcel of 70 tons of lead ore has been sampled for sale on Thursday. West Pateley, 3¾ to 4; the lode in the new level has improved during the past week, and the winze below No. 2 shaft is gradually increasing in value, now worth 15*l.* per fathom.

Subjoined are the closing quotations:—

Assheton, ¼ to 1; Carn Brea, 30 to 32; Devon Great Consols, 2¼ to 2¾; Dolcoath, 30 to 32; East Caradon, ½ to ¾; East Van, 9¼ to 10; Glyn, 2⅞ to 3⅛; Great West Van, ½ to ⅝; Great Laxey, 18½ to 19¼; Hingston Down, ¼ to ⅜; Marke Valley, 1¼ to 1¾; Pateley Bridge, 3¾ to 4; Parys Mountain, 12s to 14s.; Pennerley, 1⅛ to 1⅛; Penstruthal, 11s. to 13s.; Roman Gravels, 13¼ to 13½; Tankerville, 10 to 10½; Tincroft, 16 to 18; Van, 36 to 38; Van Consols, 1⅛ to 1⅛; West Assheton, ¾ to 1¼; West Basset, 3 to 4; West Chiverton, 17 to 17½; West Tankerville, 1½ to 1⅝; Wheal Crebor, 2½ to 3; Wheal Grenville, ⅛ to ¼; Almada and Tirito, ⅛ to ¼; Argentine, 5¼ to 6¼; Birdseye Creek, ⅝ to ¾; Cape Copper, 38 to 40; Cedar Creek, ½ to ¾; Chontales, ¼ to ⅝; Colorado Terrible, 1 to 1¼; Condes of Chili, 4¼ to 5¼; Don Pedro, 2s. 6d. to 3s. 6d.; Eberhardt and Aurora, 8¼ to 9; Emma, ½ to ¼; Exchequer (Gold), 2 to 2⅛; I.X.L., ⅞ to 1⅛; Flagstaff, 1¾ to 1⅝; Frontino and Bolivia, 1⅞ to 2⅛; Javali, 9s. to 11s.; Kapunga, 2¾ to 3; Malpaso, 5⅛ to 7⅛; Malabar, ⅝ to ⅞; New Pacific, ⅛ to ⅛; New Quebrada, 2⅞ to 3⅛; Pestarena, ¼ to ⅜; Richmond Consolidated, 9⅛ to 10; St. John del Rey, 345 to 355; San Pedro, ¾ to 1; Santa Barbara, 2 to 2⅛; Sierra Buttes, 1 to 1¼; South Aurora, 5-16ths to 7-16ths; Sweetland Creek, ¼ to ½; Tecoma, ¼ to ⅜; United Mexican, 2¾ to 2¾.

COLLIERIES.—The investor in this class of mining stock is, we think, to be congratulated upon the improved and improving character of trade. Hitherto we have stated that the price of coal would eventually rise, and that there were not wanting signs of a greatly augmented demand; in fact, that that demand would in course of a little time be upon a par with the production, notwithstanding the large number of new pits which have been commenced, and are even now putting large quantities of coal into the market. Our premises were based, first of all, upon the fact that, if not making profits, collieries which had ordinarily good management were, at all events, clearing their way; the iron trade had never been so depressed, and the quantity of coal required for the furnaces had been reduced to a minimum; any improvement in the iron trade was, therefore, certain to bring a greater demand, and better prices, for fuel; and, lastly, that failing this, the demand caused by increasing population, and consequently increased trade would, with the exports, fill the vacancy. Hitherto our exports of coal have increased at an enormous rate, having doubled in quantity during the past 10 years, and quadrupled during the last 20 years. Great Britain is not going to lose her ascendancy in trade over other nations, and the natural augmentation of our export trade would probably in itself be sufficient in course of a little time to produce the demand for all the coal our ever increasing enterprise is likely to place on the market.

It is unnecessary to report as we have hitherto the few districts where a slight improvement in trade might be indicated as a sign of better times. This week such coal and iron centre sends its report if not of a rise in prices at least of a greatly increased demand, and a better prospect of future business. The deep shroud of gloom which has hitherto hung over our most important industry in this county is undoubtedly to be dispersing, and will, no doubt, shortly give place to a bright prospect of prosperity to all those interested. Besides the reports from the various districts, there is one sign which cannot be mistaken, and which conclusively shows that experienced men share with us the belief that a considerably better demand, and consequently higher prices, for coal and iron are even now imminent, and that is the disposition evinced in some districts to speculate—i.e., buy for the coming rise. However much we may deprecate speculation under any circumstance, that now taking place may be accepted as an infallible indication of better times. We are not at all anxious to see a speedy rebound to the old prices and feverish excitement of 1873, when the words coal and iron were terms synonymous with sudden wealth and enormous riches, as we believe that such an action would be followed by speedy reaction, and the slower the tide towards better times the longer is likely to be the period of prosperity which seems now to be opening up. Low prices should be taken advantage of, as with increased trade and profits will come a higher market value of shares.

A large business as usual has been done in Chapel House shares, which close the week somewhat firmer than at the date of our last issue, being now at 3¼ to 3⅜. Looking at the prospects of the company, together with the firmness of the market, there can be no doubt that we shall shortly be able to record a further rise. The manager writes the seam of coal last met with on the new 16-fathom pit is of better quality than was expected, and will pay very well to work at some future time. At present, however, all energy is being directed towards reaching the Park Mine seam, which is of superior quality, and brings a better price than any now working at the colliery. In fact, it is said to be worth in the market 2s. per ton more than that now being worked. The general business of the company is as satisfactory as ever, there having been raised during the month of August over 6000 tons of coal, which is about the usual output, while there were purchased to supply the company's customers over 3000 tons. This is important, as indicating that when the new seams are reached, and the output increased, there will be sufficient demand for all the coal that can be raised. Business and the demand for coal in the district are improving.

Llay Hall shares close at 9½ to 10; the new screens are delivered, as also many portions of the heavy machinery, in the erection of which good progress is being made. Alltami, 5 to 5¼; the drivings at Lily pit are being continued with full force. At Leonard's pit a drift to the Hollin 6 ft. seam will be started next week. The new workings at Old Ferm are in good progress, and the permanent plant will be erected forthwith. Mold Argoed, 4 to 4¼; the coal raised is of excellent quality, and here, as everywhere else, orders are more plentiful. West Mostyn pref. close a shade weaker, there having been a few shares thrown on the market.

Cardiff and Swansea shares exhibit no change in prices, closing the week at about 1¼ to 2. These financial difficulties ended the shares should, in the present state of the coal market, be worth attention. Their coal at Cardiff is of the finest quality, and yields a fair profit; and only a better price is needed for the Swansea coal to make this portion of the company's property equally profitable. Newport Abercarne close a little weaker than last week. Opinions differ considerably as to the value of the recent discovery, while share transactions seem to be on the side of those who believe the last seam cut is not so favourable an indication as was at first supposed. The shares close at 3 to 4. A good deal of business has been done in Bilson and Crump Meadow shares, which, however, close a little weaker, at 7¼ to 8¼. Thorpe's Gawber close at 3 to 3½. Cakemore, 2½ to 3; this colliery should have fair prospects, but we have reason to believe the issue of the unallotted capital must be a necessity to make a thoroughly successful concern. Cannock and Huntington close at 3 to 3½; Hamstead, 9 to 10; Ivy House, 10 to 10½; Sandwell, 23 to 24; Spon Lane, 3¾ to 4¼; and West Cannock, 9¾ to 10¼.

HALIFAX.—Thursday, Sept. 21: The following quotations are from Mr. J. H. Thackrah's list:—Halifax and Huddersfield Union Bank, 29½; Halifax Joint-Stock Bank, 29½; Halifax Commercial Bank, 24¼; London and Yorkshire Bank, 26s. 9d.; John Crossley's, 11¼; Whitworth and Co., 8; Bradford Brick and Tile, B, 9; Ripponden Commercial, 11; Yorkshire Boiler Insurance Company, 22s. 6d.; Norton Brothers, 8; Heckmondwike Manufacturing Company, 4; Goole Steam Shipping Company, 15.

At Redruth Ticketing, on Thursday, 2866 tons of copper ore were sold, realising 10,813*l.* 2s. 6d. The particulars of the sale were—Average standard, 102*l.* 2s. 0d.; average produce, 6⅜; average price per ton, 3*l.* 15s. 6d.; quantity of fine copper, 183 tons 2 cwts. The following are the particulars:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
Aug. 11..	2582	£102 18 0	6½	£3 10 6	1s. 6d.	£57 10 0
„ 31..	1781	98 2 0	6⅞	4 0 0	11 7	53 0 0
Sept. 21..	2836	102 2 0	6⅜	3 15 6	11 10	54 4 0

Compared with the last sale, the advance has been in the standard 15s., and in the price per ton of ore about 1s.

The creditors of Drake's Patent Concrete Building Company (Limited) are requested to send particulars of their claims to the liquidators by Oct. 29, and those of the Stapleford Colliery Company (Limited) by Oct. 16.

The London Assurance Corporation have declared a dividend for the six months ending Michaelmas of 15s. per share, making the distribution for the whole year 3*l.* per share, or 24 per cent. per annum.

The Rio de Janeiro Gas Company (Limited) have decided to pay an interim dividend at the rate of 20 per cent. per annum, free of income tax, for the half year ended June 30.

NEW ROSEWARNE.—It has been decided to offer this mine, with all its machinery, in one lot as a going concern; and due notice will appear in the *Mining Journal*. The cost to the present proprietors has been upwards of 20,000*l.*; but owing to relinquishments, causing nearly the whole burden to fall on a few individuals, the present plan has been determined upon. Since the great discovery of tin, which caused shares to rise to 12*l.* each, the mine has sold 459 tons of copper ore, and in the new ground obtained a short time ago there is a fine lode and good prospects; but to sink Rule's shaft so as to work the ore ground to advantage will require an outlay of 500*l.* beyond the debts of the present company, which are heavy. Upwards of 20 fathoms of good ore ground have been gone through in the 58 and 67 levels on this ground, but without a shaft near it it has been worked at a great disadvantage. At the last sale of ore in August several tons realised 10*l.* 17s. 6d. per ton, and 15 tons have been raised since. The machinery some time ago was valued at 2000*l.* to 3000*l.*, and at a very depreciated valuation is now considered worth 1300*l.* to break up. In case parties are found to buy the whole as a going concern, several of the old shareholders, it is said, would join.

WHEAL GRENVILLE.—The improvement in the stope in the bottom of the 130 east (north shaft) continues, and altogether the prospects of the mine are very cheering. An independent report says that with a rise of 10*l.* a ton in tin the mine could be profitably worked. The dressing-floors indicate a good sale next time, at any rate more than the last.

CWM DWYFOR.—From the report of the proceedings at a meeting of this company, which appears in another column, it will be seen that unless the shareholders come forward the company will go into liquidation. As there is everything to show the mine promises well, and the agent, Captain Jewell, is confident of the results to be obtained at the 20 fm. level (the shaft being now down 19 fms. 3 ft. 6 in.), it would seem to be a great pity to abandon the undertaking.

WANTED, by a Married Gentleman, thirty-four years of age, an APPOINTMENT as SECRETARY, CASHIER, ACCOUNTANT, or any position of trust. Has had considerable London experience. Highest references and testimonials.
Address, "Secretary," 4, Pembroke-square, Kensington, London, W.

WANTED, a SITUATION as MECHANICAL ENGINEER.—The Advertiser has had considerable experience as above in Collieries; and is well acquainted with Coal Washing and Coke Burning, both on the English and German Systems. References and testimonials unexceptionable.
Apply, "A. B.," MINING JOURNAL Office, 26, Fleet-street, E.C., London.

WANTED, at once, a THOROUGHLY PRACTICAL MAN, to TAKE CHARGE of SILVER-LEAD MINES in SPAIN. Liberal salary to a competent man. Must understand the working of Rock Drills.
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PARTNER WANTED (active or sleeping) for the separate extension of a well-known and long established ENGINEERING BUSINESS in SCOTLAND, with connections in London. Capital required, £9000 to £12,000. Principals only treated with.
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MESSRS. JAMES AND SHAKSPEARE beg to give notice that their NEXT SALE will take place on Tuesday, the 26th inst., at TWO P.M., at the Baltic Sale Room, Threadneedle-street, when they will OFFER about ONE THOUSAND FIVE HUNDRED AND SIXTY SIX TONS, consisting of 1261 tons Cakes and 305 tons Ingots.
Catalogues may be obtained at their offices, 10, Austin Friars, E.C., London, and 26K, Exchange Buildings, Liverpool; also of Mr. DUDLEY DOCKER, 38, Cannon-street, Birmingham.

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Prospectuses, &c., to be had on application as above.

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20 Argentine, £5¾.	40 Javali, 10s. 9d.	50 Pestarena, 5s. 9d.
30 Chapel House, £3¾.	50 Llanrwst.	35 Parys Mount., 13s 6d.
60 Cedar Creek, 11s. 9d.	25 Ladywell, 30s.	30 Pennerley, 28s.
175 Don Pedro, 3s. 3d.	30 Marke Valley, £1 11s 3	40 Rookhope, 17s.
10 East Van, £10.	60 Malpaso, 15s.	10 Russia Copper, £2½.
40 Exchequer, £2½.	25 New Quebrada, £3¾.	10 Richmond, £10.
15 Eberhardt, £8⅞.	30 North Laxey, 14s.	200 Rica, 2s. 9d.
50 Frontino, £2½.	100 Old Treburgeit, 5s. 3d.	25 South Aurora, 8s.
20 Glenroy, £4¾.	10 Pateley Bridge, £3⅞.	30 San Pedro, 21s.
25 Glyn, £2 18s. 9d.	10 Pennant.	20 Santa Barbara, £2½.
40 Gt. Laxey, £19¼.	50 Port Phillip, 7s. 6d.	15 Van Consols, £1¼.
60 Gt. West Van, 11s.	60 Penstruthal, 12s.	50 Wh. Whisper, 3s. 3d.
50 I. X. L., 19s. 6d.	120 Prince of Wales, 3s 3d	20 W. Tankerville, 31s

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G. E. SIMPSON, STOCK AND SHARE DEALER, 6, GREAT WINCHESTER STREET BUILDINGS, LONDON, E.C., will SELL the FOLLOWING SHARES, at the market prices of the day:—

100 Aberdaunant.	60 Frontino.	100 Penstruthal
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40 Australian.	10 Great Laxey.	40 Pennant.
60 Birdseye.	50 Glyn.	75 Parys Mountain.
75 Cedar Creek.	75 Gt. West Van.	30 Richmond.
50 Chapel House.	30 Glenroy.	20 Roman Gravels.
20 Devon Consols.	70 I.X.L.	25 Tankerville.
30 Eberhardt.	100 Llanrwst.	15 Van.
25 East Van.	75 Ladywell.	40 Van Consols.
75 Exchequer.	25 Linares.	50 West Tankerville.

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	Buyers.	Sellers.		Buyers.	Sellers.
Assheton	£ ½	£ ¾	Penstruthal	11s.	13s.
Cathedral (New Issue)..	26s.	28s.	Roman Gravels	£ 13	£ 13½
Chapel House	3	3¼	Richmond	9½	9¾
Eberhardt	8¾	9	South Condurrow	3¾	4
East Van	9¾	10¼	Tankerville	10	10⅛
Emma	½	¾	Tincroft	16¾	17¼
Glyn	2⅞	3⅛	Van	36½	37½
Great Laxey	18¼	19½	Van Consols	1¾	2
Great West Van	11s. 3d.	13s. 9d.	West Assheton	1	1¼
North Laxey	13s. 9d.	16s. 3d.	West Chiverton	17¼	17¾
Parys Mountain	11s.	13s.	Wheal Kitty	2	2¼
Pateley Bridge	3¼	4	West Pateley Bridge	5	5½
Pennerley	1½	1⅝	Wheal Crebor	2½	2¾

GLYN.—Shares should be secured at once. The satisfactory meeting held on the mine shows that there are great chances of success. All the unallotted shares were taken up at £3, mostly by local shareholders, thus proving their confidence in the property.
PENSTRUTHAL.—The reports received from this mine during the past week are highly satisfactory; in fact, an important discovery of copper is looked upon as certain within a very short time.
GREAT WEST VAN.—From private inspection we hear that the several points of operation are worth from 9½ to 10 tons of lead per fathom, with the prospects of further discoveries. These shares are the cheapest in the market.
C. C. and Co. are always prepared to deal at the lowest current prices in these shares either as BUYERS OR SELLERS.

CAPTAIN ABSALOM FRANCIS
MINING AGENT, ENGINEER, AND SURVEYOR
GOGINAN, ABERYSTWITH.

Notices to Correspondents.

*** Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be *filed* on receipt; it then forms an accumulating useful work of reference.

MINE DUES.—I find at the last Killifreth Mine account Capt. A. James remarked that there was not another mine in the country paying such a high rate of dues (1-20th); but it was considered that an application to Lord Falmouth for a reduction would be useless. Observing in last week's Journal some admirable remarks, headed "Good out of Evil," from Mr. R. Symons with respect to East Presavean Mine, I find in the prospectus the statement that the grants have been obtained at the low dues of 1-20th. The apparent incongruity between the two statements appears to me to require some explanation.—SIGMA: *Sept.* 19.

ARUBA ISLAND GOLD MINING COMPANY.—Mr. G. W. Baker's letter shall appear in next week's Journal.

CONSUMPTION OF FUEL IN METALLURGICAL OPERATIONS.—Will some correspondent kindly state the average number of tons of coal consumed to produce from the mineral 1 ton of pig-iron; of chemically pure copper, of aluminium, and of caustic soda respectively? It is well understood that the quantity would vary considerably with the quality of metalliferous ores operated upon, but probably a rough average estimate can be given sufficient for my purpose.—R.T.Q.

KAOLIN AND FELSPAR.—"C. B." (Bradford)—The price of kaolin earth is from 15s. per ton. As to felspar, with 8 or 10 per cent. potash, it would be preferable to state where it can be delivered, in what quantity, and at what price.

Received,—"R. H. M." (Butte City, Montana)—"M. B." (Leeds)—"S. D."—"H. B."—"Inquirer:" We believe so.—"J. K."—"H. R."—"W. H. H.": We cannot advise you in the matter.—"Reader"—"Shareholder" (Wheal Crebor)—"R. T." (Mansfield)—"T. D. R."—"Shareholder" (Van Consols): The writer must append his name to the letter for publication.

SHARE DEALING.—We never interfere in the sale or purchase of shares; neither do we recommend any particular mine for investment or speculation, or broker through whom business should be transacted. The addresses of most of the latter appear in our advertising columns.

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, SEPTEMBER 23, 1876.

THE IRON TRADE.

It was a wise arrangement which made the meeting of the British Iron Trade Association to occur during a setting of the Iron and Steel Institute. The two associations have interests in common, though it may be well that those interests should be debated under separate organizations. When, therefore, so large a representation of the one thousand members of the Iron and Steel Institute as have this week met at Leeds were together it was in every respect well that they should be invited to discuss, apart from their business as scientific metallurgists, their interests as trading ironmasters. This was abundantly illustrated in the business which was transacted, and we cannot but believe that the outcome will justify the expectations indulged in at the close of the meeting by those members of the trade who are accustomed to look hopefully into the future.

The current of legislation is setting in the direction of less restrictive customs regulations, wherever the benefit of that course to this country is most promising. We do not believe that the regulations determined upon by Russia, in respect particularly of the steel industry, can be many years continued, and we have every confidence that the German Government will not be turned from the wise course which it is believed to have resolved upon, even though considerable pressure may be brought to bear upon it by certain of the ironmaking interests of that empire. At the wondrous statements by some few Transatlantic writers who desire a perpetuation of the high tariffs by which the United States iron industry is fostered, that British gold is being lavishly spent with a view to assist the American free-traders, we can afford to smile, aware of the utter ridiculousness of the assertions. We can the more afford to do this from the assurance that no force which the American protectionists can put into operation will be sufficient to prevent the steady advance in that great country towards the adoption of a liberal commercial policy. France has not met expectation, but we must allow both France and Austria time to adapt themselves to an order of things in trade legislation of which they have at present only indistinct views. If Germany should do what it is likely with the opening of next year she will do, then France and Austria alike will have received a fillip by which the British ironmaster will by-and-bye be largely benefited. The British Iron Trade Association must not, however, relax any portion of its efforts to arouse our statesmen, and our representatives in foreign countries to a due sense of the importance of attending not to political diplomacy merely, but likewise to trade legislation and manufacturing progress amongst peoples who, if they are not always competitors with ourselves for the custom of the world, are of great importance to us as buyers of our own products. For after all has been effected in progressive legislation by our competitors that is at all likely, we shall still have to face competition enough from nations whose advantages in the matter of labour greatly surpass our own, and who have in that matter a facility for adapting themselves to circumstances of which we are now, and are likely for some time, to remain deprived.

It is an undeniable fact that the rate of production in certain German ironworks is greatly increasing even with cheaper and less abundant labour. Driven by reduced wages to work assiduously the plodding German gives his employer more work for less wages. Some figures furnished by the Styrum Joint Stock Iron Company may be cited as proving this assertion. In 1873-4, with 719 workmen, the outturn from this company was 12,428,000 kilogrammes. In 1874-5 the outturn was 13,779,166 kilogrammes with only 674 workmen. In the former period the wages paid amounted to 767,167 marks 67 pfennig (38,358*l.* 7*s.* 6*d.*); in the latter period only 691,140 marks 89 pfennig (34,557*l.* 0*s.* 9*d.*) were paid in wages. Last year, therefore, although the staff of workers was reduced by 45, and the wages by 76,026 marks 87 pfennig (3801*l.* 6*s.* 9*d.*), the outturn showed an increase of 1,351,166 kilogrammes. It may be, as it is stated to be the case, that even with this advantage the business transacted is unprofitable, but it cannot be otherwise than that people who can show such working statistics as these have advantages which make it simply prudent on the part of British ironmasters to seek the removal of restrictions which increase the power which they naturally possess as an antagonist. What is true of Imperial Germany is hardly less true of Belgium. With what result? Why that they are still largely supplying this country with heavy ironwork. It is altogether unsatisfactory to hear only this week that the 400 tons of iron girders to be used in the construction of St. Enoch Station, Glasgow, has been obtained upon a quotation based upon Belgian prices, and that the order is to be executed in Belgium; and we have ourselves knowledge of the continued arrival in this country of weldless iron tyres for railway trucks, and steel axles, all made in Belgian ironworks, to be used up within sound of the hammers of English mills and forges.

Nevertheless the British iron trade is in no worse a condition than the Continental and American. If it is unable to effect economies in the matter of labour which are available to some other countries, its wonderful manufacturing skill in the economical production of pig-iron in particular, and the thoroughness of its work in the mill and forge, accompanied with attention to the quantity produced is gradually effecting a change which cannot but tell favourably, though slowly, upon the undistant future. Some time ago we drew attention to phases of improvement which, though not very conspicuous, were yet irrefutable signs of amendment. Those signs are steadily becoming less inconspicuous, and this will continue side by side with the manifestation of troubles which show how severe has been the prolonged exhaustion. We know of large sums of money having been invested in the past few days in the purchasing of pig-iron in nearly all the districts, yet the buyers are men who will not themselves use the metal—men who are turning their gold into iron with the intention of lying out of interest, it may be for many months to come. This transpiring at a time when the consumers of pig are buying more largely than heretofore, and when they would buy much more extensively if vendors would sell, is significant enough, and should stimulate every member of the British Iron Trade Association to relax no effort in which by legislation we may make the signs of the times yet more unmistakably encouraging.

FATAL COLLIERY ACCIDENTS.

The fatalities in our coal mines from accidents last year were much heavier than for several years previously, notwithstanding the operation of the Mines Regulation Act, which it was expected would effect such a material difference. Of the 1242 deaths recorded during 1875 no less than 288 resulted from explosions of fire-damp, 162 having taken place in Yorkshire. How these explosions took place the different juries were unable to say, further than at most of them gunpowder should not have been used. This is certainly a most unsatisfactory state of things, and shows that with the most perfect ventilation and the best of safety-lamps these fearful catastrophes will occur. But it is to be feared that the recklessness of some of the men themselves more frequently leads to accidents in mines than anything else, and against this, unfortunately, no law can be made applicable, for in but few instances can a charge be brought home to the miner. In some districts there are less accidents than in others, although they may all be of a fiery nature, and this to no small extent may be attributed to the superior discipline and the greater care taken by the men in strictly carrying out the rules. Another serious loss of life is caused by falls of roof and sides, by which last year 458 persons were killed, against 413 during the preceding year. This serious mortality is, certainly, much higher than it ought to be, and many lives have been sacrificed by the desire of the miner to get a large tonnage of coal. He is paid so much per ton, but receives, as a rule, nothing for timbering, so that he vigourously pursues that part of the employment which he charges for, and often overlooks the latter until it is too late. Timber may be brought quite close to a working place, but it does not follow that it will be made use of when it is necessary to keep the coal or roof up. In the North of England it appears that there are less accidents than in any other of our great mining districts for the number of men employed and the quantity of coal raised. This is the result of what is known as the deputy system. By it the miners are visited a certain number of times daily to see that the propping and other work is efficiently executed. This is a course adopted in all open works where the "navvy" is employed, for he is visited at certain stated times by the "ganger" to see that he continues at work and does what is required of him. There is no denying the fact that the great body of the miners think of their own safety and of the others who are working with them, and know when danger appears; but, on the other hand, there are many who either from a want of knowledge, thoughtlessness, or some other cause ought not to have the keeping of their own or of other lives placed in their hands. Everything practicable should be placed in the hands of those working in our mines by which they could become acquainted with the simplest knowledge relating to the science of mining, as well as the best mode of timbering and walling, by which he would not only benefit himself, but add greatly to the safety of those he worked with. But not the least important matter connected with mining is the great difference there is in the death rate in different districts, as we have before alluded to. This will be seen from the following figures, showing the mortality from accidents under different headings for the year 1875:—

Name of District.	Name of Inspector.	Life lost per men employed.	Life lost per tons wrought.
Durham	Mr. Bell	771 (2)	261,796 (1)
Yorkshire	Mr. Wardell	234 (12)	60,962 (12)
Nth. and East Lancashire	Mr. Dickinson	440 (6)	119,581 (7)
Newcastle	Mr. Willis	686 (3)	196,812 (3)
Midland	Mr. Evans	783 (1)	188,699 (4)
St. Helens, Wigan, &c.	Mr. Hall	349 (10)	88,840 (8)
North Stafford	Mr. Wynne	286 (11)	78,494 (10)
South Stafford	Mr. Baker	424 (7)	129,994 (6)
South Western	Mr. Brough	397 (9)	74,852 (11)
South Wales	Mr. Wales	404 (8)	80,903 (9)
East Scotland	Mr. Moore	645 (4)	198,614 (2)
West Scotland	Mr. Alexander	523 (5)	156,330 (5)

MINING AND RAILWAY DEVELOPMENT.

The mining and railway interests of this country are so intimately connected that their progress and development should always, where practical, go hand in hand. It is evident that the principal trunk lines of the kingdom receive a very large, if not indeed the largest, proportion of their gross revenue from mineral and goods traffic, whilst it is equally apparent on the other hand that large mineral properties lie undeveloped, and consequently comparatively worthless, for want of proper railway facilities. These things are so generally recognised, at least in theory, as scarcely to need repetition, and yet there are some lines of railway the directors of which practically ignore the claims which the mineral traffic has upon their consideration, and neglect to grant those facilities which would lead to a large development of mineral trade of the district to the mutual advantage of both. A doubt has arisen on the North Eastern Railway as to whether the mineral traffic upon railways pays a fair percentage. This may indeed be questioned upon some lines where both the passenger and mineral traffic is carried over the same rails, where it consequently meets with constant delays and obstructions, and where the engine expenses for shunting, &c., must be something enormous; but the 10 per cent. dividend, together with an extra 1 or 2 per cent. bonus, legitimately earned by the Taff Vale Company is a conclusive solution of the question, and should induce the managing directors of the various railways to grant extra facilities for expediting mineral traffic as that to which they have to look for a large proportion of their revenues. The Taff Vale Railway is an essential mineral line, connecting the great mining district of Merthyr and Aberdare with the flourishing port of Cardiff It cost about a million and a half in construction, or about 27,000*l.* per mile. It is one of the best managed in the kingdom; its mineral traffic is the first consideration with its managers and directors; its 10 or 12 per cent. is the envy of other railway shareholders; its 100*l.* shares are nearly double their original value; and such is the pecuniary value of the line that its possession is being nibbled for by one or two of the more powerful companies, but it can only be amalgamated with any other line except upon very high terms, and with very problematic advantages to the mining and commercial industries of the district.

Many of the ironmakers and other of our staple manufacturers complain, and certainly not without just reason, of the tariff which is charged for the conveyance of iron, coal, and other articles from the place of manufacture to the port of embarkation. These complaints are principally made by the proprietors of iron and other works in important seats of trade in the centre of the kingdom, and refer especially to the tariff charged to the port of London. It is alleged that goods can be conveyed from London to Australia at about the same tariff as is charged for their conveyance from the Midland districts of England to London; and that castings from Glasgow can be delivered in London at as low a tariff as that charged for transit from the Midland Counties. If such things are true, and they have remained uncontradicted, it is evident that it would be to the mutual advantage of both manufacturer and the railway that the tariff should be revised. Excessively high tariffs necessarily means diminished traffic and more limited trade, for all past experience demonstrates that low rates and increased facilities lead to a large development of trade, and we have yet to learn that our mining and railway interests form any exception to a rule almost universal when put to practical tests.

It is satisfactory to be able to state that one of the principal railways in the kingdom—the Great Western—appears to have a due appreciation of the value of its mineral traffic, and is taking steps for its further development. The area of the coal basin of South Wales is the largest in the kingdom, comprising 640,000 acres, the seams differing in thickness from about 50 or 55 to 100 ft. Of this immense district the Great Western Company has practically a monopoly (excluding the Taff Vale district), so far as the mineral traffic is concerned. The Great Western is now the great arterial line of communication from Chepstow on the one hand, to Milford Haven on the other, and its collateral branches connect the main line with Newport, Cardiff, Port Talbot, Neath, Briton Ferry, Swansea, Carmarthen, and Milford, and every other port of even secondrate importance along the coast; and there is not a port or a district with which this great company has not closely identified itself, making provision for the development of its mineral traffic and the expansion of the other staple trades, which follow as a necessary sequence. We do not wish to infer from these remarks that in the past there had been a little wholesome competition with other powerful railway companies increased traffic facilities would not have been granted, and lower tariffs established; but of late years the policy of the Great Western Company has been a sound and judicious one. They have shown an anxious desire to cultivate a larger mineral traffic over their trunk line, and at the same time to materially improve the facilities for shipment at the various local ports; and the benefits already accruing from this enlightened policy are shown in improved trade, and consequently increased dividends. The directors contemplate still larger outlays at Swansea, Neath, Milford Haven, and other ports for the development of their coal and other mineral traffic, whilst it is now carrying out one of the most important works in the kingdom—the Severn tunnel—which will also have a material effect in the same direction. These outlays may not prove immediately remunerative, but having regard to the future they will yield good results, and afford a satisfactory solution to the doubt which seems to exist in some quarters that mineral traffic when properly conducted pays a fair return upon the outlay made, and that, therefore, other railways which traverse mining districts would do well to imitate the Great Western policy, and do all in their power to cultivate and expand mineral traffic.

OUR COAL ABROAD.

The exports of coal from the United Kingdom in August were on a considerable scale, and the shipments have been generally increasing this year, having amounted in the eight months ending Aug. 31 to 10,735,480 tons, as compared with 9,277,298 tons in the corresponding period of 1875, and 8,910,616 tons in the corresponding period of 1874. In these totals August in each year figured for 1,682,026 tons, 1,534,826 tons, and 1,436,421 tons respectively. The exports to France have very largely increased this year, having amounted in August to 268,873 tons, as compared with 249,960 tons in August, 1875, and 202,930 tons in August, 1874, while in the first eight months of this year they attained an aggregate of 2,166,872 tons, as compared with 1,752,733 tons in the corresponding period of 1875, and 1,531,209 tons in the corresponding period of 1874. The coal of Great Britain appears to be displacing that of Belgium, to some extent, upon the French markets; this circumstance accounts in part for the remarkable results indicated in the comparison which we have just made. At the same time, regard must also be had to the continually increasing consumption of coal in France, in consequence of the gradual development of French manufacturing industry, the extension of French railways, and the growth of French steam navigation. The Germans have also been taking larger quantities of our coal this year, our aggregate coal shipments to Germany to Aug. 31 having amounted to 1,479,525 tons, as compared with 1,418,191 tons in the corresponding period of 1875, and 1,339,200 tons in the corresponding period of 1874. The Northern European countries—Russia, Sweden and Norway, and Denmark—have all taken more of our coal this year; and the same may be said of Holland, Spain, Italy, Turkey, Egypt, Brazil, Malta, and British India. The decided fall in prices has evidently had a tendency to stimulate consumption.

To the 10,735,480 tons already indicated as having been exported in the first eight months of this year, we must add 2,312,753 tons shipped for the use of steamers engaged in the foreign trade. The aggregate shipments in every form to August 31 this year thus amounted to 13,048,233 tons, or at the rate of 19,572,349 tons per annum. In 1866, the corresponding total did not exceed 9,953,712 tons; and in 1856, 5,879,779 tons. The total given as indicating the probable shipments of this year is, of course, largely conjectural; but still it is not at all improbable that when the statistics illustrating our export coal movement for 1876 come to be made up, they will show that the exports have virtually doubled this year as compared with 1866. This must be admitted to be an extremely remarkable result. Moreover, it is not at all clear that the exports have at present by any means attained their ultimate development, and there appears to be every likelihood of a ready absorption abroad, as well as at home, of any additional supplies which may be made available for consumption by English colliery proprietors. To state the matter in round figures, our coal exports and shipments have now attained an aggregate of 20,000,000 tons per annum, while 20 years since they were scarcely 6,000,000 tons per annum, so that they have multiplied threefold in two decades. This is a very remarkable state of things, as, assuming that a similar progression should continue during the next 20 years, we shall be sending abroad in 1896 somewhere about 34,000,000 tons of our coal. We think there can be no doubt that all the coal which can be extracted from the soil of Great Britain will be readily absorbed for years to come. The growth of population, the accumulation of capital, the spread of manufactures, the development of railways and steam shipping,—these are the influences which will gradually increase the demand for coal in Great Britain and, for the matter of that, all over the world.

We have observed that the fall in prices has had a tendency to stimulate the external consumption of our coal. That this fall has been serious and decided may be inferred from the single fact that the 8,910,616 tons of coal exported from Great Britain in the first eight months of 1874 were valued at 8,072,223*l.*, while the 10,735,480 tons exported in the first eight months of 1876 were priced at only 5,976,183*l.*

VENTILATION OF SINKING PITS.

An important case, establishing the responsibility of the agent to see to the ventilation of sinking pits in whatever manner the contract for the work may be let, has been decided in connection with the accident at the Thrumpton plaster pits, in Nottinghamshire. The Act of 1872 brought mines of this class under inspection. The Thrumpton Mine employs about 40 to 50 people, and on Aug. 12 a man, named Moseley, was suffocated in a shaft then in course of construction, there being at the time no ventilation whatever in the shaft. In consequence of this state of affairs, Mr. Robert Robey, the agent, under section 41 of the Act, was summoned for contravention of the 21st section, first sub-section of section 23, and others. The questions involved were whether the defendant was the agent, and whether there was an adequate amount of ventilation. It was brought out in evidence that they had got about 27 yards down, and that there was no ventilation. The defendant had control of the pit, and paid the men their wages. The shaft was not connected with the mine, and was being made for the purpose of getting water through it. One of the men working with the deceased said that he tried to dissuade Moseley from going down to the pit on the morning of the accident, that neither Mr. Robey nor anyone else knew of any of them going to the pit that morning. He had not found any foul air before in the pit. After Moseley had been let down the witness went down the shaft himself, and was down many minutes, and was not affected a great deal. No one had interdicted them from going down the shaft.

It was contended on behalf of defendant that, although the Act of Parliament was strong as to what was to be considered part of a mine, but that where work like this was let to one or more contractors the owner or agent should not be responsible for the acts of the contractors. It is scarcely necessary to say that such an extraordinary view was not adopted by the magistrates. It appeared that Mr. Robey was on the premises, and had given permission for the men to have ventilation. When deceased went down his candle went out, but one of his fellow-sinkers deposed that he did not know that the air was so bad, or that 27 yards was deep enough to require ventilation. Mr. Thomas Evans, Her Majesty's Inspector of Mines for the district, said that he attended the inquest at Thrumpton, and inspected the mine in which the man died. Assuming that the shaft was 27 yards deep, in the absence of ventilation it would not be safe for persons to work in it. There ought to have been

pipes in the shaft. It was simple ignorance on the part of these people to have a fire there. In this case they found gas the day before. He knew very little of the mine, because he had not been in it. It was urged on behalf of the defendant that the deceased man went into the shaft after being warned against doing so, and that the defendant as soon as he was asked granted the ventilation asked for. The magistrates considered the negligence proved, and that it was only a question of degree of penalty. The Government Inspector did not press for a heavy penalty, but in those mines there must be a responsible manager. The Bench said it seemed quite clear that the agent, Mr. Robey, was responsible; if he did not know the state of ventilation in the shaft it was his business to know it, but under the circumstances they would only inflict the mitigated penalty of 5*l*. The summonses against other parties for the same offence were not proceeded with.

THE IRON MARKET—FURTHER ADVANCES.—At the Wolverhampton market, on Wednesday, Derbyshire pigs advanced 1s. per ton. Hematites continued in demand at the advance of 2s. 6d. per ton, some good orders were booked, one agent has booked 20,000 tons. There is a strong disposition among the men of 'Change to speculate in pigs, seeing the general feeling of improvement is supported by so much evidence. The Bedworth furnaces, which were blown out some 18 months ago for want of work, have been relighted, and with some good orders and fair prospects work is resumed. Scotch pigs have been firmer during the week, and some fair shipping orders have been placed. The markets were plentiful in ores, excepting English manganiferous ores and brown hematites, which are much called for. A succession of orders is reported to be flowing into the Belgian iron market, and the late improvement there is said to be well maintained. The opening of the German market to the iron and steel trades by the abolition of the import duties on iron and steel, which takes place on Jan. 1 next, is being looked forward to with considerable hope and interest by the trade. At no period during the year has iron or steel, and the ores for such, been in a better condition. There is now an almost certain upward tendency, with a sure and steady demand up to Christmas, when iron usually falls for a few weeks, but regains its price for the opening spring.

FOREIGN IRON AND STEEL INDUSTRIES.—That the labours of the Iron and Steel Institute may, as far as practicable, be made available to the whole trade, the Council have very liberally authorised the reprinting in a neat pamphlet form (Newcastle-on-Tyne: M. and M. W. Lambert) of the Report on the Progress of the Iron and Steel Industries in Foreign Countries, by Mr. David Forbes, F.R.S., which was referred to in last week's *Mining Journal*, in noticing the new volume of the Institute's Transactions, just issued. It is essential that every ironmaster and ironworker should know what is being done in other countries, and this separate publication will much facilitate the diffusion of that knowledge.

EXHIBITION OF MINERALS IN JAPAN.—We hear from Japan that the necessary ground has been set apart in the Unyeno public gardens at Vedo (or Tokio, as it is now officially called), for the buildings of the National Exhibiton, to be opened next year, probably in March. The Department of Public Works will exhibit a collection of minerals and machinery, which will doubtless prove interesting.

COAL AND IRON IN THE UNITED STATES.—Mr. Gowen has in contemplation the establishment of a coal trade with the West Indies and Brazil. Mr. Gowen is president of the Philadelphia and Reading Railroad Company, and if such a trade is ever to be developed he is the man to develope it. The demand for English cannel coal at Boston has continued to be confined to small lots at $22 to $23 per ton. Cumberland (Maryland) coal has been quiet at Boston; in Nova Scotian coal nothing of any consequence has been passing. The anthracite coal trade has been in a very unsettled state at Boston. The total production of anthracite coal in Pennsylvania to Aug. 26 this year amounted to 10,478,912 tons, against 11,737,288 tons in the corresponding period of 1875, showing a decrease this year of 1,258,376 tons. The total production of bituminous coal in Pennsylvania to Aug. 26 this year amounted to 2,305,079 tons, against 2,373,023 tons in the corresponding period of 1875, showing a reduction of 67,944 tons this year, The aggregate coal production of Pennsylvania to Aug. 26 this year was thus 12,783,991 tons, against 14,116,311 tons in the corresponding period of 1875, showing a decrease of 1,326,320 tons this year. The new sections of the Southern Pacific Railroad have been laid with heavy American steel rails, and they have been substantially built. The main line of the Southern Pacific Railroad Company extends from San Francisco to Los Angeles, a distance of about 500 miles.

NEW COAL-CUTTING MACHINE.—An improved coal-cutting machine, the invention of Mr. Litchner, of Tuscarawas, Ohio, has been successfully tested in a mine at New Straitsville. The first cost of the machine is about 600*l*., and it is claimed that by its use three men can bear in and drill the holes for a blast in one hour, which would require four men a whole day, or in a given time three men with the machine can do as much as 30 men without it; the waste is also said to be less than when hand labour is employed. The machine, moreover, being only 2 ft. 9 in. high can be worked in almost any mine, and promises to prove very economic in use. The machine proper consists of a bar of iron or steel 2 ft. 6 in. long by 2 in. square, in which is placed 25 picks or cutters. These cutters and the bars in which they are securely fastened are driven by two small engines using compressed air as the motor. The engines being so very small (4 × 5 in.) are enabled to go fully 300 revolutions per minute in perfect safety, thereby imparting a rotary motion to the head where the cutters are placed of 100 revolutions per minute, every revolution driving the head in one-third of an inch, by means of screw rod and nut similar to Frim's miners' coal drill, now so extensively used in the Shenango Valley. By reversing the motion the same screws which drives the head in draws it out for a new cut into the coal. The machine is 2 ft. 9 in. high, and at present 6 ft. long, and is calculated to make a "bearing in" 5 ft. deep and but 4 in. high. The power (compressed air) is obtained by two coupled air-pumps placed at the air shaft, and carried to the cutter through a rubber pipe 1½ in. in diameter.

NEW ENGINES FOR THE MIDLAND RAILWAY COMPANY.—Messrs. Dubs and Company, locomotive engineers, of Glasgow, have offered to supply the Midland Railway Company with 20 new passenger engines at a cost of 2500*l*. each, which has been accepted. The engines have been specially designed by Mr. Samuel W. Johnson, the Locomotive Superintendent to the company with a view to working the Scotch expresses. They will be on the "bogie" principle—that is, having four small wheels on a pivot in front. The tenders will be capable of carrying 2950 gallons of water. The engines will be similar in construction to those at present being built by Messrs. Kitson and Co., of Leeds. The great length of the engines is causing the Midland Company to enlarge the engine turn-tables at their principal stations to 46 ft. diameter.

ON LEAD DESILVERISING BY THE ZINC PROCESS.—Mr. J. E Stoddart read a paper on this subject at the British Association. Having described the different processes that had existed for treating the alloy, he stated that the process now in use and carried on at Messrs. Lang's Clyde Lead Works was that of M. Maues, of Messrs. Guillem and Co., Marseilles, who was the first to work Flach's process, and who found out and patented a simple means of treating the alloy and recovering the zinc by distillation. The process is known as the Flach-Guillem. By the process the lead can be desilverised, and turned out in the shape of market lead, in thirty hours from the time it is put in process, the loss in working being not more than 1¼ per cent. That all the silver is thoroughly taken out may be seen from the fact that there is an excess of silver obtained on the large scale to the extent of nearly 2 per cent. over the assays. An analysis of the market lead gave antimony ·0015 and silver ·0004 per cent., a trace of copper, but no iron or zinc; from which it would be seen that the lead refined by the zinc process is almost chemically pure, and to this is due the finer quality of the products manufactured from it.

REPORT FROM CORNWALL.

Sept. 21.—Matters this week certainly do look a little more hopeful so far as the price of metal is concerned, but more is wanted than merely hopeful prospects. Of late when Hope has told a flattering tale she has rarely kept the word of promise to the ear, much less fulfilled it in any practical way. When the war in the East broke out it was said that the price of metals, and especially tin, must rise. The prediction has not been realised, and now when proposals of peace are being discussed it is said that better times will come when the war is over. We hope they may. Certainly they must if they are to come at all. And that they will come we have no doubt whatever. The see-saw of fluctuation must bring the balance on the eight side again some time or other. Nor do we disagree with Mr. A. P. Vivian in believing that the time is not far distant. Only it seems abundantly clear that what we have to look to is not a special revival as affects Cornwall and Cornish and Devonshire mining only, but a general revival of trade which will restore the business activities of the country at large to a healthy condition. This is the quarter from which our help will come. Needs must in these days of inter-ramified business arrangements that when one member of the commercial body suffers others suffer with it.

There are a good many people in Cornwall who think that the boring machine competition should be conducted over a wider area, and that as the Barrow had been proved at Dolcoath by private enterprise something more than a trial of the Beaumont was to be expected of the county committee. This is quite natural and, indeed, reasonable, but it is not likely that the operations of the committee, if duly supported, will terminate with the Beaumont, unless, indeed, that borer should prove so far superior to the Barrow, by which the problem has for the first time been practically solved, that nothing more remains to be attained. That is a result, however, which very few will anticipate. What has become of Capt. Tregay's borer, which was to have been in work ere this? The fact that Cornishmen have succeeded at Dolcoath with the Barrow should stimulate local invention in other directions. Cornishmen know best what they want, and it is not at all unlikely that they after all will help themselves. The Geach borer at the Severn Tunnel, alluded to last week, is the invention of a Cornishman, and made at Hayle, and its success is unmistakable. The rate of boring in the hard Pennant sandstone is 1 ft. a minute. This borer is alike simple, strong, and efficient; why should it not have a trial?

The submarine engine at Levant was successfully started yesterday. It is in the 210 fm. level, about a quarter of a mile seaward from the cliffs, and some 1200 ft. below the surface of the water. The engine is a high-pressure vertical 9-horse power, with a new Cornish boiler. The engine and boiler were taken down piecemeal, and erected in the capacious "gunnis," which they now occupy, under the direction of Mr. George Eustice, the company's engineer. The special object of the engine is to haul stuff by a skip-road from the 250 fm. level of the submarine portion of the mine to the 230, which communicates by tramway with the engine-shaft. The engine was started in the presence of several gentlemen who went underground (and under water) for the purpose, and worked capitally. The smoke is carried away through some old workings, and there is an excellent draught, and no difficulty in keeping up steam. Water is brought in by a pipe from the 160. Subterranean engines are common enough in some districts, and there are a couple at Restormel in the county; but a submarine engine is a novelty which the Levant adventurers have been the first to introduce. They are a plucky body. Something like 25,000*l*. have been spent during the four and a-half years that the present company have been at work, and the mine is now rather more than paying cost. This engine will considerably increase the power of returning stuff from the submarine portion of the mine where the lodes are rich.

Mellanear is making steady progress to resuscitation. Everything seems to have been foreseen and provided for at the outset, and the consequence is that everything has gone on without a single hitch. The mine is now in fork to the 78, where the rich course of ore was first met with in the former working, and the lode has been found large and rich. Forking is proceeding at the rate of 1 fm. per day, so that within four months from the date of the actual commencement of operations the mine will have been bottomed. The air after the water was exceedingly foul, carbonic acid gas being given off from the lode; but Mr. R. Taylor put up one of Lloyd's fans at surface, worked by a lad, and the ventilation is now all that can be desired. A new shaft is being sunk 16 ft. by 7 ft. Mellanear seems likely to revive mining in the district, and its own prospects are excellent.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Sept. 21.—There is a fair amount of activity observable at all the mills and forges where finished iron is being turned out, rolled to the order of merchants who ship to Russia and other northern ports. Orders have been kept back till they can be no longer delayed, and they are now pressed upon makers with the condition of immediate execution, whilst the specifications before in hand are being pushed forward with all practicable dispatch. This activity is noticeable mainly where those sheets are rolled which are largely in demand for stove piping and roofing purposes, and are landed upon the shores of the Baltic and Black Seas. Simultaneously, galvanised roofing sheets, required by our Antipodean colonists, are in improved request, and some home buyers who purchase for stamping purposes are better customers. Certain of these latter are disposed to buy in advance of requirement, because of their foreboding that coal may be declared up, and the prices of iron proportionately strengthened. Other buyers there are, too, amongst whom the belief is strengthened that finished iron of a medium quality is not likely to be cheaper for some time to come, but the contrary. Men, however, there are of enlarged experience who do not share in this expectation, and these to-day in Birmingham, and yesterday in Wolverhampton, regulated their transactions accordingly. Pig-iron was strong to-day, and yesterday all round. The agent here of the leading hematite firm has booked aggregate sales representing no less than 20,000 tons, at prices varying from 70s. to 77s. 6d. Orders will not now be accepted at less than 72s. 6d., and, as may be imagined from the orders already in hand, immediate delivery cannot in every case be promised even at that figure. The highest quotation just mentioned relates to a period dated back some four months perhaps. Vendors would have it understood that that figure is likely to quickly again prevail. Whether it will or not must depend upon the demand for hematites for steel-making purposes. In pig-iron, as in finished iron, the market differs in its views as to the probabilities of the early future, and transactions are thereby regulated, some consumers being content to buy only as they need, whilst speculators are appearing upon the market prepared some of them to buy large lots of pigs of medium qualities, required exclusively in the mills and forges, if they can get them at slightly under makers' current quotations. Specific Derbyshire makes are held for an advance of 1s. upon quotations which ruled before Barrow iron was put up 2s. 6d.

Coal is firm, with, however, but little doing in other than household samples. In supplying the demand for this most of the Cannock Chase pits are well occupied. There is a growing concern in the ironmaking localities as to the effect of the rising water in the mines, the heavy rain we have lately had having tendered to increase the alarm.

Throughout North Staffordshire the condition of the mining and iron industries is without conspicuous improvement, though there are indications of a not unfavourable character touching the Liverpool trade, which is the one of leading importance to all the businesses of North Staffordshire.

THE MOAT COLLIERY ACCIDENT.—On Monday the inquest was resumed before Mr. Hooper, at Tipton, on the bodies of William Grainger and Job Whitehouse Simkens, who were killed at the above colliery on August 24. Mr. J. P. Baker, Government Inspector, was in attendance. Mr. Owen appeared for Mr. Elijah Davies, certificated manager; Mr. Stokes for William Jackson, head engineer; Mr. Fuller for George Price, engine tenter; and Mr. Rhodes for Joseph Shepperd, the "competent person" under the rules.—Elijah Davies, certificated manager, said he was at the colliery on the day of the accident. He saw the report book that the engine was safe, and George Price had charge of it. Deceased were at work in the shaft. When he was at the engine on the previous Thursday he should not have hesitated to have gone down. He considered the engine and break perfectly safe on the day of the accident. Mr. Carter, of Leeds, appointed him manager. He did not know the names of the other directors. They did not restrict him in the matter of outlay. He was always supplied with necessary funds.—By Mr. Baker: He had the management of the underground workings, and had nothing to do with the surface. He said this although he was certificated manager.—William Jackson, engineer, said he had the overlooking up to April last, when Shepperd was appointed. Two days before the accident the chain was reported to him to be deficient. It was made good and sound. The deceased commenced making repairs in the shaft at seven in the morning. They were let down by the chain, which was previously examined, as was the engine. At five o'clock the chain slipped down the shaft, and the men fell into the sump, and were killed. They were not got up for 12 hours.—By Mr. Baker: He was not the colliery engineer. His duties were now to see after trade, and collect accounts. (Laughter.) Shepperd was the responsible man.—Joseph Shepperd, the "competent person" under the rules, stated that his duty was to go round and inspect every engine in the colliery. He did this once a day, and entered it in his report book. He did not examine the break on the day of the accident, because the men were at work in the shaft. He might have done so by having them up and stopping the work. The break had always worked well.—By Mr. Baker: He could not read nor write, and the entries in his book were written by his daughter. He did not even put his cross to them. He was responsible for everything on the surface.—George Price, engine tenter, said he had charge of the engine at the time of the accident. Everything appeared all right, except a pin which was bent.—Mr. Josiah Davies, mechanical engineer, gave evidence condemning the machinery, and pointing out that there was no indicator or signal bell. The break, he said, was in a very defective state, and the wedge was not, in his opinion, a proper mechanical contrivance within the meaning of the Act. The winding-gear was also unsafe.—Mr. H. E. Marten, civil engineer, of Wolverhampton, said he considered every precaution which could reasonably be expected had been taken at the colliery to prevent accidents, and he held that the "wedge" was the best possible mechanical contrivance.—Mr. J. P. Baker was at issue on some points with both scientific witnesses.—The Coroner having summed up, the jury consulted, and at eleven o'clock at night returned a verdict of "Manslaughter" against Elijah Davies, certificated manager; William Jackson, chief engineer; Joseph Shepperd, "competent person" and George Price, engine tenter. The enquiry lasted nine hours. On the following morning the jury met for the formal signing of the depositions.—Mr. Owen said the verdict would be of most serious consequence to a man in the position of Mr. Elijah Davies, and he hoped he should not be out of order in asking whether it was customary for the Coroner to be present with the jury when considering their verdict. If a question of law arose it might be right for the solicitors to be present.—Mr. Hooper said it was quite within the province of the Coroner to be present, but he might inform Mr. Owen that no question of law arose, and in this he thought the jury would bear him out.—The Foreman: That is quite true.—Mr. Hooper said he could assure Mr. Owen that if anything had occurred in which his client had been interested he should have called him in. He desired to give Mr. Davies every facility, and had endeavoured to do so throughout the enquiry.—Bail was tendered and accepted for the appearance of the accused at the next assizes.

TRADE OF THE TYNE AND WEAR.

Sept. 21.—There is little change in the value of minerals here, the demand for house coal and gas coal is a little firmer, and late moderate prices are well maintained, but for coke and furnace coals, &c., the demand is weaker. Several large collieries have been stopped in Durham lately, and more are likely to be stopped shortly. An important meeting of mineowners and agents was held at the Coal Trade office on Saturday, when it was proposed to suspend operations at a number of works in Northumberland. This question was discussed at some length, but no decision was arrived at, and the meeting was adjourned for a week. The arbitration in the case of the proposed reduction in the rates of the Durham miners was brought to a close on Saturday, when, as the arbitrators were unable to agree, the question was referred to the umpire, Mr. Shaw Lefevre, M.P., and he is expected to give his decision in a few days.

At Middlesborough, on Tuesday, the attendance was moderate, and the tone of the market remained unaltered. It was reported that there is a decided improvement in the demand for forge iron, but those rumours appear to be spectral hopes rather than the substance of returning prosperity. There cannot well be any change for the better of a permanent kind in the autumn. The coming winter threatens to be a severe one for all connected with or dependent upon the iron trade. After the winter is passed a genuine revival of trade may be confidently looked for, as by that time none but genuine traders will be left on the field. Foundry iron is scarce just now, owing to the end of the shipping season being close at hand. The prospects for finished iron are no better. It is a significant fact that Bolckow and Vaughan have a number of their furnaces out at present, and others less able to weather the storm will no doubt be compelled to follow their example.

COAL-CUTTING MACHINES AT HETTON COLLIERY.—At the Eppleton pit of this extensive colliery there are three of these machines at work—one Baird's machine, one Gillott and Copley's, and one pick machine. These are all driven by compressed air. The machines for compressing the air are at bank, and there are two complete engines of the following dimensions, but only one is worked, so that if any accident occurs the duplicate engine can be got to work immediately. Steam cylinders, 27 in. in diameter; air ditto, 28 in.; length of motion, 4 ft.; pressure of steam, 40 lbs.; revolutions per minute, 28. The machines are placed at a point about 1½ mile from the shaft. Each machine cuts on an average in the day of ten hours 27 yards in length and 2 ft. 9 in. under, the seam being 3 ft. 6 in. in thickness. These machines have now been worked for a long period, and as the coal is very hard they have proved extremely useful. We are not at present able to get any precise account as to the comparative merits of the three machines.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

Sept. 21.—There has been some improvement in the business doing at the collieries in most parts of Derbyshire, and winter contracts for a considerable tonnage of coal have been entered into. This has been the case at the pits belonging to the Clay Cross Company, which will ensure the men constant work for some months to come. An increased quantity of coal has been sent to London, and the Midland Railway is getting on better so far as the mineral traffic is concerned to the south and west. Steam coal is without any alteration worth noting, and the same may also be said with respect to the iron trade. Some of the foundries have been doing tolerably well, but there is no great activity discernable at any of them. The parties who have taken an active part in the raising of the funds for a hall in memory of George Stephenson, the eminent engineer, whose remains rest in Charlesfield churchyard, have come into collission with some of the subscribers. An extensive scheme was brought forward for a hall suitable for public meetings, with rooms for the Mechanical and Mining Engineers Association, Mechanics Institute, library and reading rooms, &c. The estimated cost in the first instance was some 12,000*l*. or 13,000*l*., but this was afterwards reduced to 10,000*l*. for the structure, the plans for which were to be modified accordingly. The sum subscribed or promised now amounts to about 6700*l*., and the promoters now wish to have the hall still further decreased in size, so that the amount named, or a little more added to it, will be sufficient. This has given umbrage to many of the subscribers, who consider that there should be no difficulty in obtaining something like 3000*l*. by new subscriptions, or by borrowing some portion by way of mortgage. It certainly does appear that the sum named ought to be obtained amongst the mining and engineering body. Stephenson was the means of opening out the Derbyshire coal field, for before the Midland Railway was made not a ton of coal went over the Clay Cross ridge from which now hundreds of thousands of tons are annually sent away. He sunk the Tipton Colliery, and gave confidence to other capitalists to follow his example, and which they have done. Those who have benefited by his work should certainly not be behind in liberally forwarding the movement. Then there is also the Association of Engineers, of which, I believe, Stevenson was a member, and as that body presented the town of Barnsley with a monument of Stephenson's most distinguished pupil (Joseph Locke), there is very little doubt but what the members, if appealed to, would gladly become subscribers. It is, therefore, to be hoped that the apparent difficulties of having a suitable monument to the memory of one whose genius stood out boldly and alone in his day will be bridged over.

Some branches of the Sheffield trades have most decidedly improved during the last week or ten days. But, on the other hand, there does not appear to be so much doing in heavy armour plates, for which there has been up to lately an excellent demand, especiallly from the Italian Government for their two powerful iron-clads. Still, in the present unsettled state of affairs on the Continent, it is quite likely that other Governments will increase their offensive and defensive armaments. The Bessemer works have been doing very well, and there is every appearance that business will be very good, more particularly in rails of that material, up to the close of the year, seeing that both at home and abroad the ordinary iron rail is being superseded by that made of Bessemer. Cast steel goods are also in improved request, and there has been a rather better enquiry for some descriptions of cutlery. Foundry material has been in sufficient demand to keep the men well employed as a rule. The mills engaged on plates and sheets have been doing moderately well, whilst steel plates for boilers are making considerable headway.

The South Yorkshire Coal Trade has rather improved of late so far as regards household qualities, and an average tonnage has been forwarded to London both

of Silkstones and Barnsley. The exports of steam coal from the Humber ports, especially Hull, has been very well kept up. No change has taken place with respect to small coal, which is still a drug on the markets. Sinking is being pushed forward, the weather being favourable for such operations, whilst at three or four large collieries where the coal has been won they are busily engaged in driving out, so that before very long there will be several extensive concerns in full operation turning out upwards of 1000 tons daily from each.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

Sept. 21.—The Iron Trade must again be reported as showing no improvement, and many of the establishments are only partially employed. No start has yet been made at the large works at Cyfartha. Clearances of iron are made to Canada, South America, and Spain chiefly, as well as the South of Russia. For bars the foreign demand shows a slight improvement: shipments of this description have been made to the East and Italy. For pigs the enquiry shows no alteration. The report drawn up by Mr. G. T. Clark, of Dowlais, who presided at the meeting of the members of the British Iron Trade Association, of the conditions of the trade in this district is of a most disheartening character, and the report does not even hint at any improvement being likely to take place. He commences by stating that during the last half-century the iron tradehas not at any period been so depressed as in the last twelve months. The demand for pig-iron has been small, and prices had not only been unremunerative, but in many cases had entailed a heavy loss. After lamenting the enforced closing of many works through the badness of trade, Mr. Clarke touches upon the causes of the depression, and says—"The interference of legislation through the restrictions imposed by the Mines Regulations Act has lessened the output of coal per man in the collieries, and has greatly increased the cost of fuel. This has raised directly the cost of production in the iron trade, and indirectly has influenced the cost of production." The legislative shortening of the hours of labour in collieries, Mr. Clarke explains, had influenced workmen in ironmaking establishments to seek similar reductions. Again, the protective policy adopted by America and many European countries was another obstacle in the way of business. Another important remark is that "at least 70 furnaces out of 115 are out of blast in South Wales and Monmouthshire." These statements, coming from a gentleman of Mr. Clarke's position in the trade, are calculated to carry great weight with them; certainly a more gloomy state of things could not well be imagined. It is to be hoped, however, that the steel trade, which is now fairly brisk, will atone to some extent for the stagnation which prevails in the iron industry. By the-bye, Mr. Clarke admits in the end of his report that "the best that can be said of it (the steel trade) is that it is just a shade healthier than the iron rail and bar trade." Tin-plates show no alteration.

In the Coal Trade also there is nothing new to report. Shipments are about up to recent averages; but prices are stationary, and freights, especially to the Mediterranean ports, are very low. It is stated that orders for winter stocks of house coals have not come in with the degree of freedom expected. Patent fuel is a dull sale. Anent the recent explosions which have taken place on vessels laden with Welsh steam coal, it was stated at a recent meeting of the Cardiff Chamber of Commerce, by one of the members, whose position enables him to give an opinion, that, while smelting coal was liable to spontaneous combustion, steam coal was merely liable to explosion from the accumulation of gas. Another member remarked that no instance had occurred in which Cardiff steam coal took fire spontaneously. It will be remembered that in March last the colliers of the district decided to discontinue paying towards the expense of keeping on Mr. Mitchard as agent. He intends vacating his seat on the Conciliation Board, and no wonder. The men have been accused of ingratitude by the Union leaders for dispensing with the agent's services, but it appears that they have done worse than that, they even (according to Mr. Michard's statement) have neglected to pay his two months' arrears of wages for February and March. The fact of it is the men are getting disgusted with the Union and its leaders. It appears, too, that a section of the men have not yet paid the 6d. levy towards the expenses of their side of the Conciliation Board for the first six months of this year, and Mr. Mitchard expresses his regret at the circumstances. It does, indeed, seem rather unfair that as the men sanction the carrying on the board and derive undoubted benefit from it they should decline to pay their share towards its support.

REPORT FROM THE FOREST OF DEAN.

Sept. 21.—The winning the coal at Hawkwell Colliery yesterday fortnight, and reported by us to the *Mining Journal* on the following day, is an event which, locally, has eclipsed all others in point of interest, as it has excited afresh a great interest in the question as to the practicability of working out the deep coal measures of the Forest bason. Some have called it—the cutting the coal at Hawkwell Colliery—solving the problem, but the problem was solved long ago, as the Colefor'd High Delf has been worked at numerous points of the outcrop for many years past, and successfully; but doubts have been entertained as to following the measure into the deep, as all attempts heretofore to work it in the deep have partly failed on account of the quantity of water to be dealt with. The Princess Royal and Flour Mills Collieries are cases in point on the western side of the Forest; and New Bowson, Hawkwell, and the East Slade are illustrations on the eastern side, heavy sums having been expended at each and all of them. The proprietor of the Flour Mill Colliery was reported very recently (two or three weeks since) as having failed and been gazetted, and at the New Bowson something like 100,000*l.* were expended without winning the coal. Something must be put down to want of experience and acquaintance as to the run of the deep strata of the district, and the quantity of pent up water between the measures. Want of intellectual capacity to calculate and anticipate difficulties, and consequent want of adaptation of machinery to cope with them, and possibly, in some instances insufficiency of capital to meet the necessary outlay, have all more or less had to do with past failures.

It has been doubted whether private companies are equal to grapple with the principal difficulty - the mass of water; and hence it has been suggested that the Crown would appropriate the dead rents for the opening of two or three shafts in some area for the erection of pumping machinery, as it is thought that the galees would willingly surrender their claims as to recouping themselves of the said dead rents in working the gales in consequence of being freed from the water obstacles: and we are satisfied that the Crown ought to give some compensating guarantees or easements to galees of the deep measures, but the proposition of draining distinct or separate areas of the Forest deep measures proceeds upon the supposition that the water is localised, or that one part of the field of subterranean water is divided or separate from the water of another part of the deep measure water. But we have grave doubts upon that head, for the following reason—that when the new Bowson pump was in action, as the water sunk or rose at the Bowson so it sunk or rose in some old workings near Lydbrook, showing clearly that the water extended underground in regular or irregular connection some 3 miles and upwards, and so did the water increase or decrease at Bilson as the water at Bowson rose or fell.

Now, the question arises—Does not this mass of water extend all over the 12,000 acres of the undeveloped deep measures? Of course, we mean in connection with them: for it would seem from the cutting the shaft at New Bowson that the bulk of the water is above the deep coal, and when the hole of the rock burst, the men sinking hearing a noise below, had just time to escape out, when a fountain like a column of water spurted up the shaft to an immense height, which proved the great bulk and weight there were to force it. Now, if this mass of water extends over the entire area of the deep measures, it is a just inference to suppose, as a matter of course, that in pumping from it it would not be possible to drain a separate area, but that the water would be drawn from the entire area. And assuming that this reasoning answers to the geological structure of the strata in connection with the deep coal measures, it follows that it would be unjust towards galees in working the deep coal, unless all were compelled to erect and work pumping machinery of equal power and capacity. Otherwise some would be easing themselves at the expense of others.

It strikes us that this subject requires much and serious attention, both from the Crown officials and the owners of gales, so that some arrangement could be come to with a view to the development of the deep coal upon equitable principles. The proposition for appropriating the dead rents towards the expenses of machinery by the Crown is very good; but if, as we suspect, the body of water is coextensive with the deep coal, dividing the district into areas will be impracticable. And, as to the Crown pumping out the water, we almost fear the necessary expense will deter from the attempt, as it would, in all probability, require six or eight gigantic engines for the purpose, kept going night and day throughout the year, and for many years to come, though it is impossible to say how long it would take to get a complete mastery over it. That it could be done is evident from the fact that the Bowson and Flour Mill Collieries machinery have been able to reduce very sensibly the body of water. However, post time being up, we must conclude this communication, and take up the question again another week. There is some slight improvement in trade in the district, and also of labour, but not much. Prices remain about the same.

A LARGE FRENCH RAIL ORDER.—Rather a firmer tone has been imparted to the French iron trade in consequence of the Paris, Lyons, and Mediterranean Railway having let contracts for altogether 150,000 tons of rails. The execution of these contracts is to be spread over five years.

BELGIAN IRON GIRDERS.—We are informed that Mr. Thos. Scott, iron merchant, Edinburgh, has secured the contract for the supply of 400 tons of iron girders to be used in the construction of the St. Enoch's Station, Glasgow. Notwithstanding the depressed state of the iron trade here, it is stated these girders will be made in Belgium, and brought over here and delivered at Glasgow at a considerably lower price than they can be produced at home.

MANUFACTURE OF WHITE LEAD DIRECT FROM THE ORE.—It was suggested in last week's *Mining Journal*, in describing the invention of Mr. J. C. MARTIN, of Richmond, that the introduction of the process into Cornwall and Devon was likely to add largely to the profits of mines yielding low-produce lead ores. The inventor has called upon us and left a sample of the white lead manufactured by the new method; it is completely amorphous, of good colour, and will doubtless find a ready market. It would greatly facilitate the introduction of some such method if the agent of every mine producing ores with low percentage of lead, but mixed with gangue only, were to forward to the *Mining Journal* for publication a statement of the quantity for disposal, the percentage of lead, and the lowest price per unit at which they would sell. The invention appears to be one quite capable of extensive development.

BODIDRIS LEAD MINE—situated about three miles from Minera, and about half a mile from the Westminster Mines. The property generally known under the above title, which has been privately worked, on a comparatively small scale, for some time past with unvaried success, is now being largely developed and more extensively opened up by a company that has lately taken it over on advantageous terms as a going concern. The nature of the country, and the already discovered lodes, seem to warrant the most sanguine expectations of the directors; in fact, with such judgment have the first operations been directed that an improvement of great value has shown itself in the shallow level; and, as this run of ore will almost immediately be cut in the deeper one, where the lode is larger and stronger, large and regular returns are confidently predicted. The prospectus in full, with reports by agents whose names are a guarantee for their trustworthiness, will be seen in our advertising columns.

FRANK MILLS.—It is gratifying to learn that after the long struggle which the adventurers in Frank Mills have had they are likely to bring the concern to a successful issue. There is one thing that they have been anxiously waiting for for years past that is now likely to come off within a couple of months—the recommencement of the Teign Valley Railway, which passes close to the Frank Mills Mine. This railway would enable them to work the extensive lodes of spathose iron (white carbonate), very valuable for making the better qualities of steel, and for steel rails. The shareholders well deserve their approaching success for their patience and energetic perseverance.

NOTICE IS HEREBY GIVEN, that the PARTNERSHIP lately existing between WILLIAM CUTHBERT, WILLIAM ISAAC COOKSON, JOHN COOKSON, NORMAN CHARLES COOKSON, and GEORGE JOHN COOKSON, carrying on the business of Lead Manufacturers and Smelters, and Antimony Refiners and Venetian Red Makers, at East Howdon and Willington Quay, in the county of Northumberland, and at the borough and county of Newcastle upon-Tyne, under the style of "COOKSON AND CO.," has this day been DISSOLVED so far as regards the said WILLIAM CUTHBERT.

WILLIAM CUTHBERT.
WILLIAM I. COOKSON.
JOHN COOKSON.
NORMAN CHARLES COOKSON.
GEORGE JOHN COOKSON.

Dated this 12th day of August, 1876.

TO BE SOLD, BY PUBLIC AUCTION, on a single bidding, in the Chamber of Notaries at Paris, on the 24th October, 1876,

THE COAL MINES OF ROUJAN.

On the Midi Railway Station, in the arrondissement of BEZIERES and HERAULT DEPARTMENT.

Area 45 kilometres. Reduced upset price 100,000 francs (£4000).

Apply on the premises to M. BRONAC, the Engineer of the Mine; and at Paris to M. FOVARD or M. TURQUET, Notaries.

TO CAPITALISTS OR PROMOTERS DESIRING TO MAKE MONEY.

TO BE SOLD, a COLLIERY ROYALTY in NORTH WALES, close to rail or shipping port; several shafts partially sunk; coal fully proved of FOUR SEAMS of good HOUSE and STEAM COALS, in an area of upwards of 400 acres of surface. It adjoins the West Mostyn Coal Field, just successfully launched, where under seams (including Cannel) have been proved in addition to the above; so that eminent engineers state that the available coal in this royalty may be 88 feet thick.

Present holder will arrange to sell the entire to an individual or company for what it has cost him, dividing all profit made above, which, even in a normal state of the coal trade, must be large. Certain and safe surveys by eminent Stafford shire and Welsh engineers have already been made.

Address, Mr. WATSON, 27, Hamilton square, Birkenhead.

UNUSUAL OPPORTUNITY FOR CAPITALISTS.

THE BRYNENGAN SLATE QUARRY, at CAPEL CURIG, CARNARVONSHIRE, producing in unlimited quantity fine coloured and readily marketable BLUE SLATE, is OFFERED FOR SALE upon very advantageous terms. Working capital only being required, the vendor and his friends would provide a fair proportion, if a few other capitalists would join him.

The area of the property is 50 acres; more land can be had, and a quantity of slates is already in stock. Price, £6000; nominal rent, £10, merging into royalty of 2s. 6d. per ton on all computed slates. The quality, durability, and elasticity of the rock are excellent, and the quarry is well situated on the hill side, within a mile from the Shrewsbury and Holyhead turnpike road, and within 100 yards of the projected Bettws-y-Coed and Beddgelert Railway. There is an unlimited supply of water and abundant tip room for generations. The vein runs 30° to S.W. and dips N.E., is 150 yards wide, and lies between two beds of hard trap rock, similarly to the veins in the best slate quarries of North Wales.

Address, PETER JONES, Timber Merchant, Port Madoc, who will supply reports of quarry managers who have inspected the quarry, and all other particulars required.

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THE ABSOLUTE INTEREST of a FIRST-CLASS SLATE QUARRY TO BE SOLD, BY PRIVATE CONTRACT, the present owners not being able to work it for the want of capital. This estate will bear the strictest investigation, and needs only to be known to command a purchaser.

For further information, address W. WORDEN, Foss street, Dartmouth, Devon.

FAVOURABLE OPPORTUNITY FOR INVESTMENT.

TWO GENTLEMEN, in possession of and now working a very VALUABLE MINERAL PROPERTY, well proved, and capable of producing an unlimited quantity of MANGANESE and MANGANIFEROUS IRON ORE, of the highest quality, are desirous to MEET WITH ONE OR TWO GENTLEMEN to JOIN THEM, in order to assist in extending the works and increasing the production.

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MANGANESE AND SULPHUR ORES.

MESSRS. BROWN, BUTLER, AND CO., MINERAL MERCHANTS, AGENTS, AND BROKERS, Are OPEN to TREAT for the PURCHASE of LARGE QUANTITIES of the ABOVE or other MINERALS, to be delivered in Liverpool.

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NOTICE.

ROYAL SCHOOL OF MINES, JERMYN STREET, LONDON.

The TWENTY-SIXTH SESSION will BEGIN on MONDAY, the 2nd October. Prospectuses may be had on application. TRENHAM REEKS, Registrar.

SCHOOL OF ENGINEERING AND PRACTICAL SURVEYING.

A THOROUGH COURSE OF INSTRUCTION given in the above subjects, embracing also PRACTICAL MATHEMATICS and MECHANICS. LECTURES given in GEOLOGY, MINERALOGY, CHEMISTRY, &c., by eminent men. Resident or non resident pupils received.

High class references and terms to be had on application.

Address, "C.E.," Stoneley House, Howard road, South Norwood, London, S.E.

LECTURES ON MINERALS AND ROCKS.—PROF. TENNANT, F.G.S., will give TWO COURSES of LECTURES on GEOLOGICAL MINERALOGY at King's College, London. One Course on Wednesday and Friday mornings, from Nine to Ten o'clock; the other Course on Thursday evenings from Eight to Nine. The Lectures commence Wednesday, October 11th, and will be illustrated by a very extensive collection of specimens, chiefly from his private cabinets. Persons unable to attend Public Lectures can have Private Instruction in MINERALOGY and GEOLOGY of Professor TENNANT, at his residence, 149, Strand, W.C.

GLASGOW AND THE HIGHLANDS.

ROYAL ROUTE VIA CRINAN AND CALEDONIAN CANALS, by Royal Mail Steamer, IONA, from GLASGOW, daily at Seven A.M., and from GREENOCK at Nine A.M., conveying passengers for the NORTH and WEST HIGHLANDS.

See Bill, with Map and Tourist Fares, free, at Messrs. CHATTO and WINDUS, Publishers, 74, Piccadilly, London; or by post from DAVID HUTCHESON and Co., 119, Hope street, Glasgow.

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MATHEMATICAL, DRAWING, and SURVEYING INSTRUMENTS of every description, of the highest quality and finish, at the most moderate prices.

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ENGINE DIVIDER TO THE TRADE.

ADDRESS—GREAT TURNSTILE, HOLBORN, LONDON, W.C.

DIALLING TAUGHT PRACTICALLY and SCIENTIFICALLY in the Mine, in the neighbourhood of SNOWDON, CARNARVONSHIRE, affording Young Men from the City, and others, a rare opportunity of combining pleasure with instruction.

For terms, apply to Mr. JNO. HORRAX, M.E., Mem. Mini. Soc. Gt. Br. and I., Sygyddo Dyffryn Copper Mines, Nantlle Vale, Pen-y-Groes, North Wales.

THE BODIDRIS MINING COMPANY (LIMITED).

Incorporated under the Companies Acts, 1862 and 1867, whereby the liability of each shareholder is limited to the amount of his shares.

Capital £30,000, in 30,000 Shares of £1 each.

Deposit, 10s. on application, and 10s. on allotment.

DIRECTORS.

Major A. B. S. SHAIRP, Isleworth.
RICHARD METCALFE, Esq., Priessnitz House, Paddington, and Grafenberg House, Barnet.
HENRY BOULTON, Esq., Horncastle, Lincolnshire (Director of St. Patrick Lead Mine, Limited).
(With power to add to their number).

BANKERS.

NATIONAL PROVINCIAL BANK OF ENGLAND, London and Mold.

AUDITOR.

MR. FRANCIS WOOD, 47, Finsbury Circus, E.C.

SECRETARY.

MR. ROBERT CUMMING.

TEMPORARY OFFICE,—10, COLEMAN STREET, LONDON, E.C.

This company has been formed to purchase and work certain mineral rights, situated in the parish of Llanarmon-in-yale, in the county of Denbigh, and held under grants from Sir W. W. Wynn, Bart., Mrs. Foulkes, and L. Adams, Esq.

The property is in extent about 1 mile on the course of the lodes, and embraces the old Craigieg Mine, together with the new mine being worked on a lode a short distance to the southwards. The former was worked to a depth of 100 yards, and £36,000 had been realised, when it was stopped because the poor price of lead, about £7 per ton, did not justify the necessary increase of expenditure required to erect machinery for the purpose of exhausting the water which was then met with. The latter has been worked privately for some two years past, and valuable discoveries have been made requiring an increase of capital, in order that the resources may be completely developed, and the mine thoroughly worked. These two lodes form a junction within the sett, where the greatest wealth is expected, and towards which operations will be immediately directed.

The lodes now being worked upon and proving highly remunerative, even as at present opened up, are parallel to those of the celebrated Minera Mines, in the immediate neighbourhood, which for the last 17 years have returned an average of about 400 tons of lead per month, and paid in dividends to the shareholders in all £583,275.

Owing to the roads being good and the railway at hand, the cost of carriage of materials to and ores from the mine is trifling.

In consequence of the present discoveries, the costly process of unprofitable exploration, which has generally to be endured by new companies, will be dispensed with, and returns will be made while further development is proceeding.

For 80 yards in depth the mine is naturally drained; on sinking below that depth pumping machinery will be requisite; the supply of fuel can, however, be obtained at an extremely cheap rate, the mine being situated on the skirts of a coal field.

The contract for purchase, dated July 13, 1876, between Thomas Vivian Garner, of the one part, and Robert Cumming, of the other part, may be inspected at the offices of the company.

The directors having entire confidence in the agents whose reports are appended, and seeing the highly favourable manner in which they speak of the mine, and having done all in their power to verify the statements as set forth, have no hesitation in recommending the property as an exceptionally good investment.

The price of the lead ore such as the mine is now producing is about 16*l.* 10*s.* per ton. The cost of dressing or preparing it for the market is from 10*s.* to 15*s.* per ton, and the royalty one fifteenth. The price of blende, which is also produced in considerable quantities, is about 5*l.* per ton, the cost of dressing being about the same as that of lead ore.

REPORT OF MR. WILLIAM FRANCIS, M.E.

Holywell, March 31, 1876.—Agreeably with your instructions, I have made a careful surface and underground inspection of the Bodidris Lead Mine, near Llanarmon, upon which it gives me great satisfaction to submit my report. I have particularly noted the several points for special consideration mentioned by you, and have, I trust, exercised that due caution which you have impressed, in dealing faithfully and truthfully with regard to all matters of detail.

I may first observe the general advantages appertaining to this property are marked, and of very considerable importance. The sett is unusually extensive, and the royalties moderate—1-15th.

The geological position I take to be most important of all considerations in dealing with the prospects and probable results likely to accrue from its development; and this, therefore, will be the first subject I shall endeavour to explain before coming to the more practical description of the workings. The stratification in the carboniferous limestone, extending from the well known Talargoch Mines at the extreme north, to the Great Minera Mines, near Wrexham (south), embracing a sectional area of country in which all the renown mines of Flintshire have been developed, and in which, within the prescribed limits of such sectional area, every main lode hitherto worked has proved very productive, so that I have no hesitation in saying, with the greatest confidence, that the geological position of this property is everything that can be desired, and eminently satisfactory in every particular, so that, having main lodes here found, I should have no doubt whatever of their proving rich when fairly laid open. I would mention further that this mine adjoins the formerly rich Westminster Mines, which, during my remembrance, returned 250 tons monthly, and have far exceeded this quantity. It is also in the neighbourhood of the present Great Minera Mines.

There are in this sett three main lodes, of a character so strong as to pierce every stratum of the metal-producing sectional area of rock; and, from a careful examination of their surface lines, I find they form a junction at a point where hitherto no workings have been prosecuted; and this fact alone would have enabled me to say, without the slightest hesitation, that great courses of lead ore would undoubtedly be discovered at their junction, and from thence eastward; but I find from actual operations now being carried on this is verified in the strongest manner; and from a combination of features observable throughout, I am enabled to say, with entire confidence, that a great discovery of ore has now made its appearance in the western portion of the measures, where I should scarcely have expected to find such a strong and tangible proof of the expected bodies of ore being found at the junction.

I carefully examined the workings on the middle vein on which the discovery is made, so far as they have been carried out. Two whim-shafts have been sunk to the 60 yards level, and a level driven at this depth for communication. A sump has been sunk below this level on a run of ore as deep as the water would admit, and other portions of orey ground have been worked profitably in several places, but the measures are altogether too far eastward to admit of any continuous bodies of ore being discovered, and those profitably worked have necessarily been at a comparatively shallow depth. To the east of the eastern whim-shaft, however, a very decided change has taken place, both as to the measures and the congenial character of the vein, and in driving the 30 yards level east upon it a course of ore has been discovered that for the last 4 fathoms will produce about 1½ ton of lead ore to the fathom. Leading up to this favourable result the vein has become gradually more productive for many fathoms back to the west, gradually improving eastward. The 45 yards level has been driven from the same shaft, and is just now coming into the run of ore discovered in the 30 yards level above, and which will now produce about 1 ton of ore per fathom. This level is now only about 10 yards from the junction before alluded, to, and when found it is not difficult to predict a result as valuable and important as any that has hitherto taken place in any of the other renowned mines of the district. I should say, judging from what orey ground is laid open, if systematically prosecuted, the returns of ore will be gradually increasing from month to month, and commencing at (say) 10 tons per month, by the necessary outlay which I shall hereafter recommend, that they will increase rapidly up to 100 tons per month, in 12 months from the commencement of the operations recommended.

And for this purpose I would, in the first instance, advise a careful survey of all the lodes, so as to ascertain the true position of the junction eastward; or, if this be sufficiently and accurately known, an engine-shaft should be at once commenced, to take immediate advantage of the discovery already made, and for the purpose of extensive operations eastward, where I am convinced your great future mine lies; and, in the meantime, as an adit level has been commenced from the river below, about ½ mile to the west, I would recommend this being carried on to the main workings, which level would drain the mine 120 yards deep, and being driven on the course of one of the lodes would be likely, in the meantime, to lay open orey ground more than sufficient to pay the cost of bringing it up.

I will here revert to the Old Craigieg lode, which, considering its western position (scarcely within the pale of the true mineral belt of rocks), has been very productive for upwards of 100 yards in depth; worked formerly with an old atmospheric steam engine. With this exception, the lodes have only been partially laid open in these measures, though they have yielded considerable bodies of ore at a shallow depth; and it is worthy of special notice, the whole of the ground remains undeveloped in the true bearing eastern measures. The cause of this is easily ascertained; and this brings to notice the necessary outlay required in steam pumping machinery to accomplish this desirable object. From my knowledge of this particular locality, and mines similarly situated, I would suggest that you provide for a direct Cornish pumping engine of the most approved construction: and, with due regard to economy, I am inclined to think that £5000 (by aid of the returns forthcoming from the orey ground already laid open) would be sufficient to bring the concern into a self-supporting and dividend state. In this I have endeavoured to make a careful estimate, and the result may probably show that a less sum may be required. It may be also observed, that when the necessary steam power for drainage is erected, and the adit level brought up, a great deal of orey ground will become available on the three lodes already partially worked (as deep as the water would hitherto admit of), which would become an additional increase to the forthcoming returns, and render the mine of more value. The necessary buildings (smiths', carpenters' shops, &c., and complete dressing-floors, &c.) are constructed with a plentiful supply of water, winter and summer.

In conclusion, I may say it has seldom been such a satisfaction to me on this occasion to report on a property in which I have the most unlimited confidence of quick and profitable results, and on so extensive a scale: and I shall be most happy on all occasions to afford and additional information in my power.

WILLIAM FRANCIS.

REPORT SUPPLIED TO FORMER PROPRIETORS.

ENGINEERS' REPORT ON BODIDRIS MINE.

In handing our report on this mine, we would first observe that it is situated about a mile from the village of Llanarmon, midway between Mold and Ruthin. It is in the immediate vicinity of some of the mines in Flintshire which have been most productive of lead ore.

The stratum is the lead-bearing limestone, in which all the rich mines of Flintshire and Denbighshire have been found. There are three well known veins running through the property, forming a junction in the eastern part of the ground. Only one of these veins, however, has been worked upon, from which a large quantity of ore was raised, and the workings were abandoned on account of the low [illegible] price of lead ore (about 6*l.* per ton), and the terms of the [illegible]

...lations. The price of ore is now more than double what it then was, and we ...k it would pay well to re-open these workings.
The present workings are on a vein to the south of the one named, entirely in ...ein ground, and are comprised in the sinking of three shafts, with the driving ...several levels, as shown on the plan.
The Swallow shaft has been sunk to a 60 yard level, and is being extended east...ard, and the forebreast is looking most promising. The vein is large (from 3 ft. ...4 ft. wide), and composed of carbonate of lime and lead interspersed. This level ...s been extended 53 yards east, and there is about 60 yards yet to be driven to ...me under the new shaft, which has been sunk 29 yards, and where the lode is ...ow and giving some rich ore. This is a most promising piece of ground. To the ...st of new shaft the junction shaft has been sunk to a depth of 36 yards, and a ...ad run of ore of considerable height has been passed through. In the bottom of ...e shaft the lode is 4 ft wide, and will give over 4 tons of ore to the fathom.
As will be seen by the plan, the dip of the ore is to the eastward, and from where ...t met with to the bottom shows it to be a new run of ore, and our firm belief is ...at the mine will not be second to any in the district.
The quantity of ore at surface we estimate at about 50 tons, and the ore ground ...e last open will produce 600 to 700 tons (of about the value of £10,000). Our ...st opinion is that there is not a more promising piece of mining ground in the ...unty of Denbigh. In fact, we have no hesitation in saying that there must be ...large body of ore in the ground, and more especially at the junction of the three ...own veins, which will be within the next 60 yards to the eastward.
The situation is everything that can be desired, there are excellent roads, a good ...eam of water that can be adapted for a water power and for the dressing of ...re, and there is an abundant supply of experienced miners in the immediate ...eighbourhood.
JAS. NANCARROW.
WALTER EDDY.
Liverpool, Feb. 6, 1873.

REPORT OF MESSRS. WILLIAMS AND KYRKE,
Mining Engineers and Surveyors.

May 17.—Agreeably with your request, we have inspected this mine, which is ...ituate a short distance from Llanarmon, in the county of Denbigh. The carboni...rous limestone underlies the whole of the sett, and is the same formation, which ...n Flintshire and Denbighshire, has at various times proved so rich in metallic ores. ...ree strong veins or lodes intersect the property. The first or Craigiog vein was ...orked many years ago, but owing to the low price of lead, which was then only ...£9 per ton, coupled with the presence of water, the workings had to be dis...ntinued and we believe have lain idle ever since. The second lode or vein "Maes-...ynal" runs parallel with the last, and we believe has never been tried within the ...boundaries of the sett, although it is a strong one, and from its nature and appear...nce "at day" seems likely to bear lead. The third or "Vein Canol" runs nearly ...east and west, and at about 80 yards from the present shaft, should intersect the ...Craigiog vein" which bears north-west and south-east, the course of all the chief ...lead bearing-lodes in this neighbourhood. On the former of these veins, two levels ...ve been driven; one at 30, the other at 45 yards deep. In the 30 yards level ...which is now driven about 25 yards east of the present shaft) some nice ore bearing ...ground has been passed through; the lead for the last 5 fathoms being worth, we ...would say, from 1 to 1½ tons per fathom. The 45 yard level has been driven about ...yards in the same direction, and in it also some lead has been raised.
We are much pleased with the ground in the levels on the "Vein Canol" which ...is about 4 feet wide, with well defined hanging and foot walls, and we would re...commend that the levels above mentioned should be driven forward as rapidly as ...possible, to cut the intersection of veins "Craigiog" and "Canol," as we have little ...doubt that at the junction of two such strong ore-bearing lodes, a large body of ore ...will be found to exist.
WILLIAMS AND KYRKE.

Prospectuses, forms of application, and plans may be obtained at the office of the company.

EAST TRESAVEAN COPPER MINE.

In the parish of GWENNAP, CORNWALL.

Capital, £10,000; in 5000 (£2) shares.

5s. per share on application, and 2s. 6d. per share on allotment.

The balance (if required) in calls not exceeding 2s. 6d. per share, at intervals of not less than three months.

Appointment of directors to be left for the decision of the shareholders at their first meeting.

MANAGER AND PURSER.
Mr. CHARLES BAWDEN, Poldice House, St. Day, Scorrier, Cornwall.

BANKERS.
Messrs. TWEEDY, WILLIAMS, AND CO., Redruth, Cornwall.
Messrs. GLYN, MILLS, AND CO., London.

The object of this company is to open out the celebrated Tresaveau Mine lode, in ...a new property of which grants have been obtained at the low dues of 1-20th. It ...is in close proximity to mines that have been immensely productive and profitable, ...being on the line of continuation (eastward) of the celebrated Tresavean Mine, ...which no longer than 40 years back figured as one of the greatest dividend-paying ...mines in Cornwall. In the year 1833 the shareholders received in dividends ...£9,600 the shares (100th) after advanced from £10 to £2000 each. The mine con...tinued paying highly remunerative dividends for many years, amounting in the ...aggregate to half-a-million sterling.
The East Tresavean grant is about 400 fms. from east to west on the course of ...the lodes, and 300 fms. in width, affording scope for opening out a deep and ex...tensive mine. The back (surface outcrop) of one of the lodes is to be seen at about ...the centre of the grant, shows copper and gossan, and at no greater depth than ...10 ft. below the surface, it being intersected by the well-known important great ...county cross-course to which is not a little to be attributed the immense accumu...lations of copper ore met with in Great Consols United and Clifford Mines; which ...mines for 40 years continued to produce enormous quantities of copper ore, and ...by very large dividends. Moreover, an elvan course of correspondingly crystal...line character to the one in connection with the great body of ore in Tresavean ...Companies the East Tresavean lode spoken of.
As justified by the important facts stated, more particularly the similarity of ...the main superstructural characteristic conditions of the lode in question to the lodes ...of some of the most abundantly productive mines of the district (in the same ...elvan formation as this grant is in), it is to be confidently relied on that compara...tively little depth of development is required to ensure the realisation of a copper ...mine of very great value in East Tresavean. This opinion is justified by analogy, ...which practically scientific mining authorities will ever attach great importance, ...having proved it to be the safest guide in forming their opinions of the inherent ...value of mining properties.
It is intended to have a 40-in. diameter cylinder steam-engine for this mine to ...insure its effectual development—say, in the first place, to a depth of 50 fms., at ...which several of the greatest mines of Gwennap commenced being ore producing, ...growing more and more productive in depth, and paying larger profits than any ...mines in the other districts of Cornwall. Indeed the Gwennap copper mines have ...raised altogether such astounding profits as have gained for them a wide-world ...celebrity, it being well known that many of the leading Cornish families are in...debted to them for their influential positions and wealth. The probabilities are in ...favour of East Tresavean proving such a rich mine as will revive the remembrance ...of the brilliant era of Gwennap copper mining of former days, there being many ...old mines in the parish that have profited hundreds of thousands of pounds.
It is only intended by the amount of capital nominated to fix the maximum ...liability of shareholders, not meaning it to be understood that anything like so ...much will be required to open out and establish East Tresavean as a permanently ...good dividend-paying mine, which it is confidently relied on will not necessitate ...any larger expenditure than £6000, if so much, paying for all engine-power, mecha...nical means and appliances, and indeed everything required, thus giving a rich ...mine for comparatively little money.
The shareholders will have the full benefit of the capital subscribed, there being ...no claim made for promotion money or free shares; the object is to offer and open ...out a good mine on the principle of equitably advantageous co operation, the cost ...of leases, and out-of-pocket expenses consequent on the acquirement of the grants ...being, of course, charged to the company, one-half of the capital will be privately ...subscribed, leaving only 2500 shares to be issued, which will be allotted according ...to priority of application. Shares to be applied for by letter, remitting the first ...payment of 5s. per share, either to the manager or banker of the company. In ...the event of no allotment the amounts remitted will be returned in full.

THE SECURITIES MART AND EXCHANGE,

For the SALE and PURCHASE of STOCKS, SHARES, DEBENTURES, th OBLIGATIONS of PUBLIC COMPANIES and SECURITIES generally not inscribed on the Official Lists of the Stock Exchange.

NOTICE IS HEREBY GIVEN, that in consequence of the non-completion of the necessary alterations at the Mart, the FIRST SALE, advertised for the 26th instant, is POSTPONED until TUESDAY, October 10th, at TWO P.M.
Particulars of all Securities intended to be offered at that sale must be deposited on or before the 3rd day of October.
Prospectuses, terms, and all information to be had on application.
F. MELLER, Manager (pro tem).
Gracechurch Buildings, Gracechurch street, City, E.C.

CONSOLS, RAILWAY STOCKS, FOREIGN BONDS, and every description of SECURITIES PURCHASED and SOLD, for cash or account, by Messrs. THORNYCROFT AND CO., 30, BROCKLEY BUILDINGS, SOUTH JOHN STREET, LIVERPOOL. SPECIAL BUSINESS in SHARES of all the principal HOME and FOREIGN MINES, in connection with which classes of investments the experience of nearly half a century enables Messrs. THORNYCROFT and Co. to offer sound advice, based on reliable information.
A selected list of DIVIDEND PAYING SECURITIES and INVESTMENT FOR A RISE forwarded on application.
Bankers: The Adelphi Bank, South John-street, Liverpool.

MONEY ADVANCED, in sums of £500 and upwards, on FREEHOLD or LEASEHOLD PROPERTY, SHARES, STOCKS, and PERSONAL SECURITY.
Address, THORNYCROFT and Co., Accountants, Mortgage Brokers, Valuers, &c., 30, Brockley Buildings, South John-street, Liverpool.

MR. W. TREGELLAS, 122, BISHOPSGATE STREET WITHIN, E.C.,
Deals in all descriptions of Stocks and Shares at close market prices.

MESSRS. HARLAND AND CO., STOCK AND SHARE DEALERS, 235 and 236, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.
Bankers: London and County Bank

MESSRS. KEENE AND LAMBERT, STOCK AND SHARE BROKERS,
METROPOLITAN BUILDINGS, 63, QUEEN VICTORIA STREET, E.C.
Bankers: London and Westminster Bank, Lothbury.

COUNTY OF MERIONETH.

SALE OF VALUABLE FREEHOLD PROPERTY.

MESSRS. WM. DEW AND SON WILL SELL, BY AUCTION, at the Castle Hotel, Harlech, on Thursday, the 28th of September, 1876, at Two o'clock P.M. (immediately after the sale of Penbrynpwlldu Farm), in One Lot, ALL those FREEHOLD FARMS, called

ABERDAUNANT AND HENDREGERYG,

Situate in the parish of Llandecwyn, in the county of Merioneth, containing 104 A. 0 R. 37 P. or thereabouts, together with the right to turn 150 sheep on the adjoining common.
There are on these farms several very desirable sites for residences, commanding excellent views of Cardigan Bay, Harlech Castle, and the Carnarvonshire mountains.
The farms are well stocked with game, and adjoin lands belonging to Lord Harlech, W. H. Oakeley, Esq., and W. T. Poole, Esq.
There is on the property a Copper Mine, now being worked, which can be developed at a small outlay.
Plans and particulars may be had on application to Messrs. JONES and JONES, Solicitors, Port Madoc; Mr. T. ROBERTS, C.E., Port Madoc; and the Auctioneers, Bangor.

THE TREVARRACK MINING COMPANY (LIMITED).
IN LIQUIDATION.
LELANT, near HAYLE, CORNWALL.

MESSRS. COOPER AND GOULDING WILL SELL, BY AUCTION, by order of the Liquidator, at the TREVARRACK MINE, on Monday, October the 9th, at Twelve precisely, the WHOLE of the VALUABLE

MINING PLANT AND MATERIALS,

Including a superior 34 in. cylinder PUMPING ENGINE, 9 ft. stroke, with 10 ton BOILER; 106 fms. of 6 to 9 in. pumps; matchings; working barrels; H pieces; plunger poles; pole cases; top door pieces: windbores; main and bucket rods; strapping plates; hammered caps; an angle bob; bolts and burrs; 230 fms. of chain; horse whim and tackle; smiths' bellows; anvil; smiths' and miners' tools; double purchase crab; the timber erections of shops and account house and other useful plant.
May be viewed on application to the agent, at the Mine, of whom catalogues may be obtained: of the Liquidator, GEORGE STILL, Esq., 35, Ethelburga House, London, E.C.; and of the Auctioneers, 70 and 71, Bishopsgate-street Within, London.

FROGHALL, STAFFORDSHIRE.

IMPORTANT SALE of VALUABLE MACHINERY, COSTLY MINING PLANT and MATERIALS, Horses, Colts, Carts, Stone and Timber Drags, Oak, Ash, Elm, and other Timber, &c., belonging to the Executors of the late JOSEPH SOUTHALL, Esq., and now lying at and near Froghall, Staffordshire, to be OFFERED for UNRESERVED PUBLIC COMPETITION, by

MESSRS. FERGYSON AND SON, on Thursday, the 5th day of October, 1876.
Business to commence at One o'clock prompt.
The whole of the machinery is in excellent working order, and the materials of the best possible description, and lie in proximity to Froghall Railway Station, on the Churnet Valley Branch of the North Staffordshire Railway.
To view the lots, for catalogues, and all other information, application can be made to JOSEPH SOUTHALL, Esq., The Grange, Ipstones, *via* Cheadle; or to Messrs. FERGYSON AND SON, Auctioneers, Leek.
Auction and Valuation Offices, Stockwell-street, Leek.

RUGBY, WARWICKSHIRE.

IMPORTANT TO CAPITALISTS, LIME, AND CEMENT MERCHANTS, BRICKMAKERS, AND OTHERS.

VALUABLE FREEHOLD ESTATE, WITH BED OF FIRST CLASS BLUE LIAS LIMESTONE, FOUR COTTAGES, BRICKYARD, AND KILNS, &c.

TO BE SOLD, BY AUCTION, by Messrs. TAIT AND BIRD, at the George Hotel, Rugby, on Wednesday, the 11th day of October, 1876, at Four o'clock in the afternoon, in the following lot, or in such lots as may be agreed upon at the time of sale, and subject to such conditions as will be then produced, ALL that

FREEHOLD LAND,

Situate about half a mile from Rugby, on and adjoining the road to Newbold-on-Avon, comprising about seventeen acres, more or less, under which there are valuable Strata of Blue Lias Limestone, similar in quality to that from which is produced at the Victoria Cement Works, in the immediate neighbourhood of the celebrated Rugby Portland Cement.
The property adjoins the Oxford Canal, and is within a few hundred yards of a railway, having access to all parts of the country.
And also all those FOUR substantially newly erected and well appointed DWELLING HOUSES, situate on part of the said land, fronting the said road, and now all well tenanted.
The above forms a property for investment seldom to be met with. Cement works may be erected at a comparatively small cost, the proved excellence of the cement made from the Blue Lias Limestone in this neighbourhood ensuring a large and profitable return.
Being in the parish of Newbold-on-Avon the rates and payments are very small.
Further information, with plans and particulars, may be had on application to the Auctioneers, 12, North-street; or to Mr. E. HARRIS, Solicitor, Rugby.

VALUABLE COLLIERY AT SHEFFIELD.

TO BE OFFERED FOR SALE, BY AUCTION, BY MR. JOSEPH NICHOLSON, at his Mart in High street, Sheffield, on Tuesday the 26th day of September, 1876, at Four o'clock in the afternoon, the COLLIERY known as

BRIGHTSIDE COLLIERY,

Situate at BRIGHTSIDE, in the parish of SHEFFIELD. The property is partly FREEHOLD and partly LEASEHOLD. The leasehold part is held under several leases, the particulars whereof can be obtained on application.
The coal remaining to be worked consists of about 190 acres of the Silkstone Bed and 113 acres of the Parkgate Bed.
There are 224 coke ovens on the premises, capable of producing a considerable quantity of coke, for which there is a great demand at the large manufacturing works in the immediate neighbourhood.
The colliery is provided with ample machinery, and adjoins the line of the Midland Railway from Sheffield to Rotherham and Masbro', and is connected therewith by sidings.
The fixed machinery (a schedule of which will be produced at the auction) will be included in the sale.
The purchaser will be required to take the horses, plant, loose tools, and effects at a valuation.
The working plans of the colliery may be inspected at the office of Mr. J. W. JEFFCOCK, Mining Engineer, Bank-street, Sheffield.
Further particulars, with conditions, may be obtained on application to Mr. J. W. JEFFCOCK; the Auctioneer, High-street, Sheffield; or to Messrs. BROOMHEAD, WIGHTMAN, and MOORE, Solicitors, Bank Chambers, George-street, Sheffield.

IN VOLUNTARY LIQUIDATION.

TO BE SOLD, on Wednesday, the 27th instant, at Two o'clock, at the Law Association Rooms, Cook-street, Liverpool, ALL THOSE VALUABLE MINES—CATHERINA, EMILIENS FREUDE HANNCHEN, and MARIECHEN, known collectively as the

BENSBERG LEAD MINE,

Situate at BENSBERG, near Cologne, on the Rhine; together with all the MACHINERY, FIXED and LOOSE PLANT, now in working order.
The mines are held under four grants or concessions, dated respectively the 29th September, 1868, and 9th April, 1870, and are subject to a royalty of 2 per cent. per annum on the profits, as estimated by the authorities.
Also a portion of the SURFACE GROUND of the MINES, held under a lease for 18 years, from 1st January, 1873, subject to an annual rent of 35 thalers.
The total area of the mines is 1,456,034 German lachters, which are believed to be equal to about four square miles English measure.
The works can be inspected at any time on application to the Manager.
For further particulars, apply to A. W. CHALMERS, 5, Fenwick-street, Liverpool, where the lease, &c., can be seen; or to Messrs. HARVEY, ALSOP, and STEVENS, Solicitors, 12, Castle-street, Liverpool.

RUABON COAL FIELD.

IFTON RHYN AND GOBOWEN COLLIERIES,
NEAR OSWESTRY.

SALE OF COLLIERIES AND PLANT BY MORTGAGEES.

TO BE SOLD, BY TENDER, in the following Lots:—

LOT 1.

The BENEFICIAL INTEREST of the lessees, undertenants, and occupiers of and in the IFTON RHYN COLLIERY, held under Lord Trevor for 30 years from the 25th December, 1868, as modified by an agreement dated the 5th February, 1873, and the MACHINERY and PLANT (legally removeable) thereto belonging.
The colliery is a going concern comprising about 1000 acres, situate in the parishes of Chirk and Saint Martins, in the counties of Denbigh and Salop, and two pits are now at work.
The MACHINERY and PLANT are NEARLY NEW, very extensive, and of first-class quality, and comprise several egg-ended boilers, horizontal winding-engines, portable engines by Robey and Co., purchase crabs, cage, and levers, Tangye's hydraulic jacks and pumping-engines, pulley blocks, steam cylinders, coal screens, weighing machines, Murray's patent brick-making machine, with pug-mill, clay-crushing and grinding rollers complete, many yards of steel rope, many tons of rails, switches, levers, fish plates, &c., and all plant and material necessary for carrying on a first-class and extensive colliery.

LOT 2.

The BENEFICIAL INTEREST of the lessees, undertenants, and occupiers of and in the GOBOWEN COLLIERY, of the IFTON RHYN COMPANY, held under a lease from Col. Lovett, for 42 years from 24th June, 1874, and the MACHINERY and PLANT (legally removeable) thereto belonging.
The property comprised in this lease extends over an area of about 500 acres, close to Gobowen Station on the Great Western Railway.
The machinery consists of two pair horizontal winding engines, complete, two egg-ended boilers, water barrels, and iron work.
The purchase money is to be paid in cash, and possession given on the Nov. 1 next.
Written tenders are to be sent in on or before the 10th day of October next, to either of the undermentioned firms, and the leases (or copies) and full detailed lists of the plant, and the conditions of sale may be seen at their respective offices.
The vendors do not bind themsels to accept the highest or any tender.
The properties may be inspected on application at the works.
SHARON G. TURNER, Solicitor, 56, Lincoln's Inn Fields, London.
LONGUEVILLE, JONES, and WILLIAMS, Solicitors, Oswestry.

IN LIQUIDATION.

THE GARDDEN LODGE COAL, COKE, AND FIRE-BRICK COMPANY (LIMITED).

TO BE SOLD, BY PRIVATE TREATY, the

GARDDEN LODGE COLLIERY,

Close to RUABON, in NORTH WALES. The Colliery and Mines are held under a lease for 30 years, from March, 1863 (with power to extend for seven years further), and on very favourable terms as regards royalties, &c.
The MINES comprise 13 VALUABLE SEAMS of COAL under upwards of 160 acres of land, the united thickness of which seams is about 48 ft.
Also, excellent BEDS of IRONSTONE and FIRE CLAY, which are now being worked. There are also 24 COKE OVENS, recently erected on the estate by the company on the most approved principle, with all usual fittings and appliances. A siding connects the works with the Great Western Railway.
The concern (except the coke ovens) is in full working order, and satisfactory reasons can be given for winding up the company.
The premises can be viewed, and full details had on application to Mr. JOHN TURNER, Garddlen Lodge, Ruabon; or to Mr. JOSEPH HEAP, Rochdale, Solicitor to the Liquidator.

CARDIGANSHIRE.

NEW LISBURNE MINE.

TO BE SOLD, BY PRIVATE CONTRACT, by the Executrix of the late GEORGE PELL, Esq., deceased, a FREEHOLD ESTATE, with the MACHINERY and MATERIALS now in use thereon, comprising the above Mine, together with the MINING LEASES of adjoining properties, as a going concern.
It is believed the lodes of the Mine are a continuation of the well-known Logylas.
For plans and particulars apply to WALTER EDDY, Esq., Llangollen; and to view, Capt. BALL, on the Mine.

TAMAR VALLEY SILVER LEAD MINE, DEVON.

TO BE SOLD, BY PRIVATE TREATY, by the executrix of the late GEORGE PELL, Esq., deceased, all that desirable MINING SETT, situate in the parish of BEERFERRIS, in the county of DEVON, together with the MACHINERY and MATERIALS now in use on the said mine, which will be offered FOR SALE as a GOING CONCERN.
For plans and particulars, apply to WALTER EDDY, Esq., Llangollen; and to view, to Capt. TRUEAN, on the Mine.

SLATE QUARRY.

FOR SALE, BY PRIVATE CONTRACT, an EXTENSIVE and VALUABLE SLATE QUARRY in NORTH WALES. The quarry has been largely opened out, and already produces considerable quantities of slates and roofing slates of good quality, and the outturn can be much increased by a small expenditure of capital.
There is an excellent machine-house, fitted with steam-engine and machinery. The access to the quarry is unrivalled—a railway, a turnpike road, and a navigable stream being all contiguous to the property.
Held on long lease at favourable terms.
Apply to Mr. R. G. ELWES, C.E., 7, Westminster Chambers, Victoria-street, London, S.W.

BERCUNES MINE, NEAR LINDAL-IN-FURNESS.

TO BE SOLD, BY PRIVATE TREATY, all that VALUABLE HEMATITE IRON ORE MINE, situate at LINDAL-IN-FURNESS, and known by the name of—

"BERCUNES,"

As the same was recently worked by WORDSWORTH HARRISON, Esq., J.P., together with the ore at bank, about 100 tons, and the following MINING PLANT:—
ONE STEAM BOILER with fittings, 500 feet of steam piping, 2 winding gins, 1 gin rope, 2 patent steam pumps, 1 hoisting crab and rope, 4 wheelbarrows, 6 picks, 36 pick shafts, 2 shovels, 4 saws, 1 axe, 2 hammers, 15 hammer shafts, 4 large water casks, 8 mine buckets, 4 barrels, 2 pair of standards, 2 tumbletrees, 2 augers, 2 tumbletree ropes, 3 fire pans, 500 yards of water troughing, and about 3000 feet of larch pit wood.
The Mine has been thoroughly proved, and a steady output may, it is believed, be relied upon.
For conditions of sale, and further particulars, apply to ALAN B. SALMON, Solicitor, Ulverston, and Barrow-in-Furness.

SULPHATE OF BARYTES FOR SALE.—Fine powdered, beautifully white; also in the Rock or Crude State, free from Lime and Metallic Oxide.
Samples on application to—
RUTHWAITE BARYTES MINING COMPANY,
Nov. 17, 1875. WHITEHAVEN.

FOR SALE:—
A 40 in. CORNISH BEAM PUMPING ENGINE, 9 ft. stroke in cylinder, and 7 ft. in shaft (by Perran Foundry Company), in good condition.
THREE 30 ft. by 6 ft. 6 in. SINGLE-FLUED BOILERS, with all fittings complete—one of the above nearly new.
ONE 12 in. cylinder HORIZONTAL STEAM CAPSTAN, with drawing gear and drum complete, is equal to new.
Price for the lot as they stand, £480.
Apply—
JAMES PAYNE, WREXHAM.

FOR SALE, a 18-horse power PORTABLE STEAM ENGINE, with link motion reversing gear, ready for delivery.
A 25-horse power PORTABLE.
An 18-horse power VERTICAL STEAM ENGINE, with link motion reversing gear, also gear to wind and pump.
A 9 ft. PAN MORTAR MILL, VERTICAL ENGINE, and BOILER.
Apply to—
BARROWS AND STEWART, ENGINEERS, BANBURY.

MINING MACHINERY AND MATERIALS.

ON SALE, BY PRIVATE CONTRACT, at ST. IVES CONSOLS MINE, St. Ives, Cornwall:—
ONE 20 in. cylinder WINDING ENGINE, with a 10 ton BOILER.
ONE 22 in. WINDING ENGINE, with BOILER 8 tons.
ONE BOILER, 10 tons, with fittings, complete.
ONE BOILER, 10 tons, with fittings, complete.
ONE BOILER, 5 tons, without fittings.
PITWORK, various sizes, 18 in., 12 in., 9 in., 8 in., 7 in., and 6 in.
All the above are in excellent condition.
Apply to Mr. GEORGE TREWEEKE, St. Ives, Cornwall.

ON SALE, TWO CORNISH BOILERS, 30 ft. by 7 ft. diameter, Two flues through each. Safe at 60 lbs. pressure working.
Apply to HENRY PARKINSON, Foundry-street, Bolton.

ON SALE, ONE PAIR of 18 in. high-pressure HORIZONTAL ENGINES, for winding, fitted with slot link motion. First-class pair of engines.
Apply to HENRY PARKINSON, Foundry-street, Bolton.

ON SALE, ONE PAIR of 15 in. HORIZONTAL WINDING ENGINES, with slot link motion. Will be sold cheap.
Apply to HENRY PARKINSON, Foundry-street, Bolton.

ON SALE, ONE 25-horse power double cylinder PORTABLE ENGINE, fitted with slot link motion for winding.
ONE 20-horse power double cylinder PORTABLE ENGINE.
Will be sold cheap, and are in first-class order.
Apply to HENRY PARKINSON, Foundry-street Boiler Works, Bolton, Lancashire

ON SALE, ONE 8-horse power PORTABLE ENGINE, fitted up with winding drum; slot link motion; made by Clayton and Shuttleworth. Price £150.
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ON SALE, ONE PAIR of 25 inch. coupled HORIZONTAL WINDING ENGINES, with drums and brake gear. Also ONE PAIR of 22 in. ditto. Will be sold cheap.
Apply to H. PARKINSON, Foundry-street, Bolton.

ON SALE, ONE strong well-built condensing BEAM ENGINE, by a first class maker, equal to new; cylinder 36 in. bore, 5 ft. stroke. Can be seen standing, and will be sold cheap. ONE close-built self-contained condensing BEAM ENGINE, stands on independent bed on six columns; cylinder 28 in. bore, 4 ft. stroke. As good as new. Can be seen standing, and will be sold cheap.
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BOILERS ON SALE.—FOUR GALLOWAY'S PATENT BOILERS, 30 ft. by 7 ft., safe to work at 70 lbs. on the square inch.
TWO BOILERS, 28 ft. by 7 ft., with two flues through.
TWO BOILERS, 26 ft. by 7 ft., two flues through.
ONE BOILER, 20 ft. by 7 ft., two flues through.
ONE BOILER, 18 ft. by 6 ft., one flue through.
Also several smaller sizes.
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ON SALE, ONE 16 horse power double cylinder PORTABLE ENGINE, for winding.
ONE 12 horse power PORTABLE ENGINE.
ONE 10 horse power PORTABLE ENGINE.
ONE 8 horse power PORTABLE ENGINE.
ONE 6 horse power PORTABLE ENGINE.
Equal to new, and will be sold cheap.
Apply to HENRY PARKINSON, Foundry-street, Bolton.

ON SALE, ONE PAIR of 25 in. horizontal WINDING ENGINES.
ONE PAIR of 18 in. horizontal WINDING ENGINES.
ONE PAIR of 16 in. horizontal WINDING ENGINES.
ONE PAIR of 15 in. horizontal WINDING ENGINES.
ONE PAIR of 12 in. horizontal WINDING ENGINES.
ONE PAIR of 10 in. horizontal WINDING ENGINES.
ONE PAIR of 7 in. horizontal WINDING ENGINES.
The above engines are now ready for delivery, and fitted with winding drum and brake gear to each pair of engines.
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Of all sizes, from ½ cwt. to **20 tons**, with self-acting or hand motion, in either case giving a perfectly **DEAD BLOW**, while the former may be worked by hand when desired. **Large Hammers, with Improved Framing, in Cast or Wrought Iron. Small Hammers,** working up to 500 blows per minute, in some cases being **worked by the Foot** of the Smith, and not requiring any separate Driver.

SPECIAL STEAM STAMPS, for Forging, Stamping, Punching, Bolt-making, &c.

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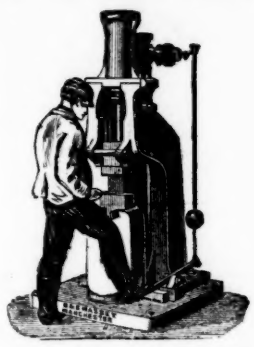
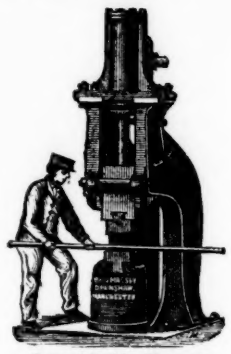
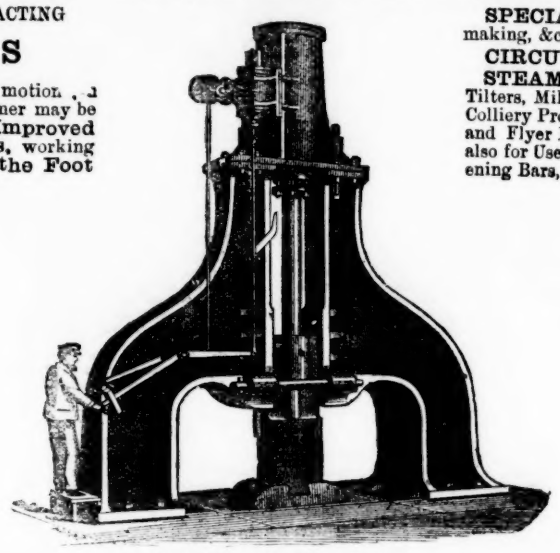


Smal Hammer with Foot Motion.



General Smithy Hammer.



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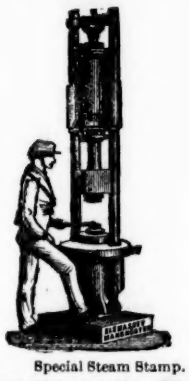
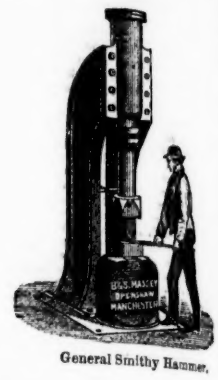


Special Steam Stamp.



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For the amount of work it will do, it is the lightest, most compact, most durable, and cheapest in the market.

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NEAR VICTORIA STATION, MANCHESTER.

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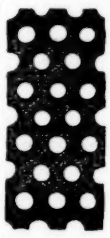

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Best Selected Charcoal Iron, best Crucible Cast Steel, and extra strong Improved Steel Round and Flat Wire Ropes; Compound-laid non-rotating Flexible Ropes in Iron or Steel for small gear and sinking purposes; Best Selected Charcoal Iron Guide Ropes; Galvanised and Plain Ropes for capstans, crabs, suspension bridges, canal towing, &c.; Patent Steel Plough Ropes; Galvanised Signal and Fencing Strands; Copper Rope Lightning Conductors; Steel, Iron, and Copper Sash Cords; Picture Cords; Russian, Italian, and Manilla Hemp Round and Flat Ropes; White and Tarred Hemp and Flax Spun Yarns; Round and Flat Rope Pulleys and Patent Springs for same; Galvanised Wire Rope for Ships' Standing Rigging; Russian, Italian, Manilla, and Coir Cordage; Towlines, Warps, Service and other Lines for Shipping Purposes; Ships' Rigging fitted by experienced workmen.

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Crab Winches, Pulley and Snatch Blocks, Screw and Lifting Jacks, Ship Knees, Forgings, and Use Iron of all descriptions.

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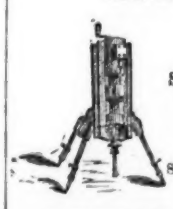

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ITS SAFETY is evidenced by the total ABSENCE OF ACCIDENTS in transit and storage; it is insensible to heavy shocks, its GIANT POWER being only fully developed when fired with a powerful percussion detonator, and hence its great safety.

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THE BEST EXPLOSIVE KNOWN FOR EVERY KIND OF QUARRYING, MINING, TUNNELLING, AND SUBAQUEOUS OPERATIONS,

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Rock Borers, Air Compressors, and Electric Blasting Apparatus.

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MAKERS OF EVERY DESCRIPTION OF

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ALSO OF

BLAKE'S STONE BREAKERS.

SOLE MAKERS OF

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ILLUSTRATED CATALOGUES POST FREE ON APPLICATION.

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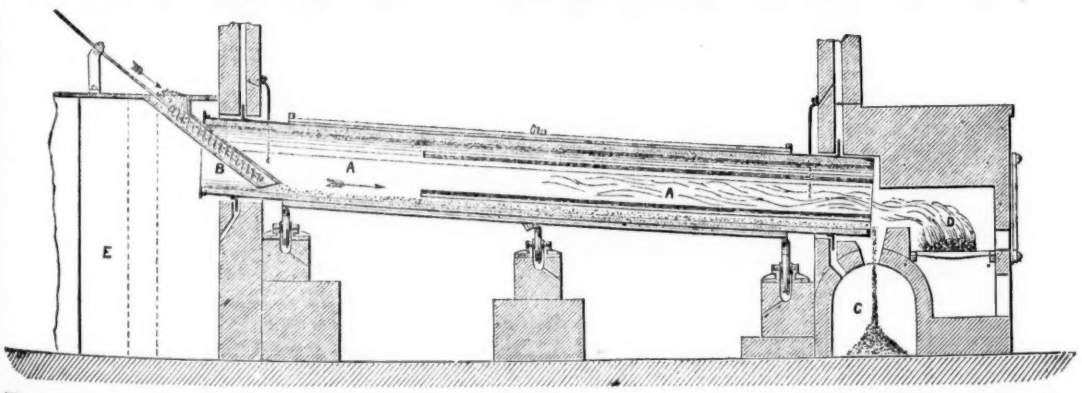

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For particulars, apply to—

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2.—SHROPSHIRE.

3.—CARDIGANSHIRE AND MONTGOMERYSHIRE.

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OPINIONS OF THE PRESS

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The book will be found well worth reading."—*Glasgow Herald.*

THE MINING SHARE LIST.

BRITISH DIVIDEND MINES.

Shares.	Mines.	Paid.	Last wk.	Clos. Pr.	Total divs.	Per share.	Last paid
1500	Alderley Edge, c, Cheshire*	10 0 0	... — ...	...	12 11 8...	0 5 0	...Jan. 1876
15000	Balmynheer, t, Wendron (4000 to 1s.)	1 0 0	... — ...	...	0 2 0...	0 2 0	...Nov. 1875
20000	Bampfylde, c, i, ma., Devon*	1 0 0	... 1½... 1½ 1¾	...	0 2 0...	0 2 0	...June 1873
200	Botallack, t, c, St. Just§	119 5 0	... 45 ... 40 45	...	619 15 0...	5 0 0	...Aug. 1875
4000	Brockwood, c, Buckfastleigh	1 16 0	... 1¼... 1¼ 1½	...	3 16 0...	0 2 0	...Nov. 1875
3348	Cargoll, s-l, Newlyn§	6 6 0	... 3½... 3 3½	...	4 16 3...	0 12 6	...Oct. 1875
6400	Cashwell, i, Cumberland*	2 10 0	... — ...	...	1 7 6...	0 2 0	...Aug. 1875
1000	Carn Brea, c, t, Illogan†	35 0 0	... 33 ... 31 33	...	398 0 0...	1 0 0	...Feb. 1874
6000	Cath. & Jane, l.*	Penrhyndendraeth	5 0 0	... — ...	...	0 7 6...	0 7 6	...June 1873
2450	Cook's Kitchen, t, Illogan†§	22 17 3	... 2½... 2 2½	...	11 17 0...	0 7 6	...Jan. 1873
10240	Devon Gt. Consols, c, Tavistock†* §	1 0 0	... 2½... 2½ 2¾	...	116 10 0...	0 12 0	...May 1873
4296	Dolcoath, c, t, Camborne	10 14 10	... 33 ... 31 31	...	130 6 3...	0 7 6	...Aug. 1876
6500	Drake Walls, t, c, Calstock	6 0 0	... ¾... ½ ¾	...	0 2 0...	0 2 0	...July 1874
15000	Duchess of Westminster,* l, Holywell	1 0 0	... — ...	...	0 3 0...	0 2 0	...Feb. 1876
10000	East Balleswidden, t, Sancreed*	1 0 0	... — ...	...	0 2 11...	0 0 5	...Feb. 1874
6144	East Caradon, c, St. Cleer†	2 14 6	... 1⅝... ¾ 1¾	...	14 19 0...	0 2 0	...Oct. 1872
300	East Darren, i, Cardiganshire	32 0 0	... — ...	...	235 10 0...	1 0 0	...Aug. 1876
6400	East Pool, t, c, Illogan	0 9 9	... 9¾... 9 9¼	...	14 14 3...	0 2 0	...July 1876
1906	East Wheal Lovell, t, Wendron*§	6 19 0	... 3... 2 3	...	20 7 6...	0 7 6	...Oct. 1874
2800	Foxdale, i, Isle of Man*†	20 0 0	... — ...	...	82 5 0...	0 10 0	...Feb. 1876
40000	Glasgow Cara., c* (30,000 £1 p., 10,000 15s. p.)	...	... 1¼... 1 1¼	...	0 11 10...	0 2 0	...Jan. 1876
15000	Great Dyliffe,* l, Montgomeryshire	4 0 0	... 5... 4 5	...	0 2 6...	0 2 6	...Apr. 1876
15000	Great Laxey, i, Isle of Man*	4 0 0	... 19... 19 20	...	20 3 0...	0 10 0	...July 1876
615	Great Retallack, l, bl, Perranzabuloe	5 18 6	... 1½... 1 1½	...	0 1 6...	0 1 6	...May 1876
25000	Great West Van, i, Gardigan*	2 0 0	... ⅝... ½ ⅝	...	0 2 0	1 0	...Aug. 1874
4808	Great Wheal Vor, t, c, Helston†§	41 12 6	... ¾... ¾ ¾	...	15 19 6...	0 2 6	...June 1874
6400	Green Hurth, i, Durham*	0 6 0	... 3½... 3 3½	...	1 12 0...	0 4 0	...Oct. 1874
20000	Grogwinion, i, Cardigan*	2 0 0	... 6... 5 6	...	0 8 0...	0 2 6	...Sept. 1876
9830	Gunnislake (Clitters), t, c	5 5 0	... 2⅝... 2½ 2⅝	...	0 12 9...	0 2 0	...June 1876
1024	Herodsfoot, i, near Liskeard†	8 10 0	... 4... 3 4	...	62 5 0...	0 15 0	...Oct. 1872
18000	Hingston Down, c, Calstock*† (£1 sh.)	2 5 0	... ¾... ¾ ¾	...	4 4 0...	0 1 0	...Nov. 1875
25000	Killaloe, s., Tipperary	1 0 0	... — ...	...	0 3 11½	0 0 6	...Mar. 1873
400	Lisburne, i, Cardiganshire	18 15 0	... 70... 65 70	...	576 10 0...	2 0 0	...Aug. 1876
14000	Llanidloes,* l, Montgomery	3 0 0	... 3½... 3 3½	...	0 4 6...	0 1 6	...Nov. 1875
6120	Lovell, t, Wendron	0 10 0	... — ...	...	0 17 6...	0 1 6	...Jan. 1874
9000	Marke Valley, c, Linkinhorne	5 0 6	... 1⅞... 1¾ 1⅝	...	7 15 0...	0 2 0	...Jan. 1876
11000	Melindur Valley, i, Cardigan*	3 0 0	... — ...	...	0 7 2...	0 3 7	...Jan. 1875
9000	Minera Mining Co., l, Wrexham*	5 0 0	... 22... 20 22	...	65 6 2...	0 10 0	...Aug. 1876
20000	Mining Co. of Ireland, ci, c, l*	7 0 0	... 5½... 5¾ 5½	...	23 11 6...	0 3 6	...Jan. 1876
512	North Busy, c, Chacewater	3 9 6	... — ...	...	0 10 0...	0 10 0	...Dec. 1875
12000	North Hendre, i, Wales	2 10 0	... — ...	...	1 2 6...	0 2 6	...Nov. 1875
2000	North Levant, t, c, St. Just§	12 2 0	... — ...	...	4 13 0...	0 12 0	...Sept. 1873
27855	Old Treburgett,* s-l, ordinary shares	1 0 0	... — ...	...	0 0 9...	0 0 9	...Feb. 1874
9258	Old Treburgett,* s-l (10 per ct. pref.)	0 10 0	... ⅛... ⅛ ⅛	...	0 1 4½	0 0 6	...July 1874
5000	Penhalls, t, St. Agnes	3 0 0	... — ...	...	3 13 6...	0 2 0	...July 1875
45793	Pensthuthal, t, c, Gwennap	2 0 0	... ¾... ½ ⅝	...	0 2 8...	0 0 8	...Nov. 1876
12 00	Phœnix, & W. Phœnix, t, c, Link.§	3 4 9	... — ...	...	2 8 6...	0 4 0	...Nov. 1872
18000	Prince Patrick,* s-l, Holywell	1 0 0	... — ...	...	0 14 0...	0 1 3	...Jan. 1876
1120	Providence, t, Lelant†§	18 6 7	... 2¼... 2 2¼	...	104 12 6...	0 10 0	...Sept. 1872
12000	Roman Gravels, i, Salop*	7 10 0	... 13¾... 13⅝	...	6 4 6...	0 8 6	...May 1876
512	South Caradon, c, St. Cleer	1 5 0	... 100... 115 120	...	729 0 0...	1 0 0	...Aug. 1876
6123	South Condurrow, t, c, Camborne	6 5 6	... 4½... 4 4¾	...	1 18 6...	0 3 6	...June 1876
10000	So. Pr. Patrick,* s-l. (8000 sh. issued)	1 0 0	... — ...	...	0 7 0...	0 1 0	...Oct. 1875
12000	Tankerville, i, Salop*	6 0 0	... 103¾... 103¾	103¾	4 12 0...	0 5 0	...Aug. 1876
6000	Tincroft, c, t, Pool, Illogan†	9 0 0	... 18... 17½ 18	...	49 13 6...	0 5 0	...Aug. 1876
15000	Van, i, Llanidloes*	4 5 0	... 38... 37 38	...	18 5 6...	0 16 0	...June 1876
8000	W. Chiverton, i, Perranzabuloe†	12 10 0	... 18½... 17½ 18¾	...	54 10 0...	0 10 0	...Aug. 1876
1783	West Poldice, St. Day	10 0 0	... 1¼... 1 1¾	...	1 19 0...	0 4 0	...July 1876
512	West Tolgus, c, Redruth	95 10 0	... 53... 51 53	...	15 15 0...	1 0 0	...Aug. 1876
5048	West Wheal Frances, t, Illogan	27 13 9	... 4¾... 4 4¾	...	3 12 6...	0 5 0	...Oct. 1872
12000	West Wye Valley,* l, Montgomery	3 0 0	... 4½... 3 4	...	0 3 0...	0 3 0	...May 1876
512	Wheal Basset, c, Illogan†§	12 2 6	... 10... 5 10	...	63 10 0...	1 10 0	...Aug. 1872
1024	Wheal Eliza Consols t, St. Austell	20 0 0	... — ...	...	6 0 0...	3 0 0	...Aug. 1876
2048	Wheal Jane, t, Kea	2 13 10	... 1¾... 1 1¾	...	8 5 0...	0 5 0	...July 1876
4295	Wheal Kitty, t, St. Agnes	5 4 6	... 2½... 2 2½	...	11 19 6...	0 2 6	...Dec. 1874
80	Wheal Owles, t, St. Just§	86 5 0	... 150... 140 150	...	522 10 0...	4 0 0	...Aug. 1872
6000	Wheal Prussia, t, Redruth	2 0 0	... — ...	...	0 3 0...	0 2 0	...Dec. 1875
25000	Wicklow c, sul, i, Wicklow	2 10 0	... 2... 1⅞ 2	...	52 9 0...	0 2 6	...Mar. 1872
10000	Wye Valley, l, Montgomery*	3 0 0	... 7... 5½ 6¼	...	0 6 0...	0 3 0	...Aug. 1875

FOREIGN DIVIDEND MINES.

Shares.	Mines.	Paid.	Last wk.	Clos. Pr.	Total divs.	Per share.	Last paid
35500	Alamillos, l, Spain*†	2 0 0	... 2¼... 1¾ 2¼	...	1 14 9...	0 2 6	...Mar. 1876
30000	Almada and Tirito Consol., s*†	1 0 0	... ½... ⅝ ⅝	...	0 6 3...	0 1 0	...May 1876
20000	Australian, c, South Australia†	7 7 6	... 2¼... 2 2¼	...	0 18 0...	0 2 6	...Aug. 1876
10000	Battle Mountain,* c, (6240 part pd.)	5 0 0	... — ...	...	0 10 0...	0 10 0	...Nov. 1872
15000	Birdseye Creek, g, California*	4 0 0	... ⅞... ⅝ ⅞	...	0 14 0...	0 2 6	...June 1874
12320	Burra Burra,* c, So. Australia	5 0 0	... — ...	...	70 0 0...	0 10 0	...Oct. 1872
20000	Cape Copper Mining,*† So. Africa	7 0 0	... 40... 35 40	...	26 15 0...	1 0 0	...Sept. 1876
40000	Cedar Creek, g, California*	5 0 0	... ¾... ½ ¾	...	0 5 0...	0 2 6	...June 1872
30000	Central American Association*†	0 16 6	... — ...	...	0 6 0...	0 1 0	...July 1866
15000	Chicago, s, Utah*	10 0 0	... 6¼... 5½ 6	...	2 4 0...	0 4 0	...Aug. 1876
21000	Colorado Terrible, s-l, Colorado*†	5 0 0	... 1½... 1 1½	...	0 13 6...	0 4 0	...Jan. 1875
10000	Copiapo, c, Chili* (£20 shares)	15 15 0	... — ...	...	7 8 5...	0 2 6	...Jan. 1876
100000	Don Pedro North del Rey*†	0 16 0	... ⅓... ⅓	...	2 5 9...	0 2 0	...Mar. 1872
23500	Eberhardt and Aurora, s, Nevada*†	10 0 0	... 8¾... 8½ 9	...	1 5 0...	0 5 0	...July 1876
50000	Emma,* g, s, Utah	20 0 0	... ¾... ½ ¾	...	3 12 0...	0 6 0	...Dec. 1872
70000	English and Australian, c† S. Aust.	2 10 0	... 1½... 1¼ 1½	...	2 18 9...	0 2 0	...Mar. 1876
15000	Ferguson, g, California*	2 0 0	... — ...	...	0 3 0...	0 3 0	...April 1872
30000	Flagstaff, s, Utah*	10 0 0	... 1¾... 1½ 1¾	...	4 2 0...	0 5 0	...July 1873
28000	Fortuna, i, Spain*†	2 0 0	... 6... 5⅝ 6	...	5 15 10...	0 8 0	...Mar. 1876
55000	Frontino & Bolivia, g, New Gran.*†	2 0 0	... 2⅜... 2¼ 2⅜	...	0 1 0...	0 1 0	...June 1876
30000	Gold Run, hyd.	1 0 0	... ⅜... ⅜ ⅜	...	0 2 4...	0 0 4	...Oct. 1872
68000	Kapunda Mining Co. Australia†	1 3 0	... — ...	...	0 2 4...	0 0 6	...June 1873
20000	Last Chance, s,* Utah	5 0 0	... ¾... ¾ ¾	...	0 14 0...	0 2 0	...July 1873
15000	Linares, l, Spain*†	3 0 0	... 6... 5½ 6	...	15 19 2...	0 10 0	...Mar. 1876
65000	London and California, g*†	2 0 0	... ½... ¼ ½	...	0 1 0...	0 1 0	...July 1875
7837	Lusitanian, Portugal*† (£5 shares)	3 10 0	... — ...	...	1 11 6...	0 1 6	...Mar. 1873
8000	Mammoth Copperopolis of Utah, c, s	10 0 0	... — ...	...	0 5 0...	0 5 0	...Dec. 1872
5000	Mountain Chief, s, Utah*	10 0 0	... — ...	...	0 4 0...	0 4 0	...Jan. 1873
18000	Prussian Mining & Ironworks, cl, t.	30 0 0	... — ...	...	6 0 0...	3 0 0	...July 1873
10000	Pontgibaud, s-l, France†	20 0 0	... 18... 16 18	...	20 14 2...	1 3 2	...Nov. 1875
100000	Port Phillip, g, Clunes*†	1 0 0	... ⅜... ⅜ ⅜	...	1 8 0...	0 1 0	...Jan. 1872
54000	Richmond Consols, s, Nevada*†	5 0 0	... 9... 8¾ 9	...	3 1 6...	0 7 6	...Aug. 1876
40000	Santa Barbara,* g, Brazil	0 10 0	... 2½... 2 2½	...	0 1 3...	0 1 3	...Apr. 1876
120000	Scottish Australian Mining Co.*†	1 0 0	... 1⅞... 1⅝ 1⅞	...	15 per cent.		...May 1876
60000	Scottish Austral. Mining Co., New	0 5 0	... ⅞... ⅝ ⅝	...	15 per cent.		...May 1876
112500	Sierra Buttes, g, California*†	2 0 0	... 1¾... ¾ 1¾	...	1 14 0...	0 2 0	...Apr. 1876
60000	South Aurora, s, Nevada*	5 0 0	... ½... ⅜ ½	...	0 14 2...	0 2 0	...Nov. 1872
£225000	St. John del Rey*† (£5 stock and multiples dealt in)	...	320 350	...	½ year...	25 p. ct.	for June 1876
15000	Sweetland Creek, g, California*†	4 0 0	... ⅜... ⅜ ⅜	...	3 8 0...	0 2 0	...June 1876
20000	Tolima, g, s* So. America	5 0 0	... 3¾... 3 3¾	...	0 11 6...	0 6 8	...May 1874
18000	Western Andes, s,* New Granada	5 0 0	... — ...	...	2 14 10...	0 8 3	...July 1876
21000	W. Prussian (3500 pref. sh. £5, paid)	10 0 0	... 11½... 11 11¾	...	0 16 0...	0 8 0	...Sept. 1876

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Clos. Pr.	Last Call.
20000	Anglo-Australian, g, Victoria*	2 10 0	... — ...	...	...Sept. 1872
5000	Anguilla Phosphate, West Indies (4000 issued)	10 0 0	... — ...	...	...Fully pd.
12000	Argentine, g, Argentine Republic	5 0 0	... 5½... 4¾ 5¼	...	...Fully pd.
10000	Australian Central, g* (also 6000 deferred shares)	1 0 0	... — ...	...	...Fully pd.
3000	Bellavista, s, Peru* (£10 shares)	10 0 0	... — ...	...	...Fully pd.
30000	Blue Tent, hyd., California	5 0 0	... 3¼... 3 3¼	...	...Fully pd.
50000	Braganza, g, Brazil*†	0 15 0	... — ...	...	...Oct. 1870
12000	Camp Floyd, s, Utah*	10 0 0	... — ...	...	...Fully pd.
35000	Cesena Sulphur Company, Romanga, Italy*	10 0 0	... — ...	...	...Fully pd.
50152	Chontales, g, s, Nicaragua*†	2 0 0	... ⅛... ⅛ ⅛	...	...Fully pd.
6000	Clifton, s, Colorado*	5 0 0	... — ...	...	...Feb. 1872
16000	Condes of Chili, s-l	5 0 0	... 5... 5 5¼	...	...Fully pd.
35000	Excelsior Hydraulic Gold Washing Co., California*	8 0 0	... — ...	...	...Dec. 1871
10 0000	Exchequer, g, s, California*†	1 0 0	... 2¾... 1¾ 2¼	...	...Fully pd.
40000	Holcombe Valley, g,* California	1 0 0	... — ...	...	...July 1873
6000	Hornachos,* s-l, (£10 shares) Spain	10 0 0	... 15½... 14½ 15½	...	...Jan. 1874
20000	Imperial Brazilian Collieries, Brazil*	6 0 0	... — ...	...	...Fully pd.
0 0000	I. X. L., g, s, California*	1 0 0	... 1... ⅞ 1⅛	...	...Fully pd.
6 0000	Javali, g, Nicaragua*	2 0 0	... ⅞... ⅝ ⅞	...	...Fully pd.
12000	Lanestosa,* l, z, Viscaya, Spain (£2 shares)	1 15 0	... — ...	...	...Mar. 1876
75000	Malabar, g, Colombia* (65000 issued)	1 0 0	... — ...	...	...Fully pd.
40000	Malpasó, g, Colombia* (10000 pref. shares, fully paid)	1 0 0	... — ...	...	...Fully pd.
12000	Menzenberg, c, Honnef, Germany*	5 5 0	... ⅜... ⅜ ¾	...	...Fully pd.
6000	Monte Loreto, g, c, Italy*	5 0 0	... — ...	...	...Fully pd.
68000	New Quebrada, c, Venezuela*	5 0 0	... — ...	...	...Fully pd.
50000	New Rosario, s, Mexico*	1 0 0	... 4¾... 3¾ 4	...	...Fully pd.
20000	New Zealand Kapanga, g, Coromandel*	1 0 0	... — ...	...	...Fully pd.
3000	Oregon,* g, Oregon, U.S. (preference shares)	5 0 0	... 2¾... 2¼ 3	...	...Fully pd.
50000	Panuicillo, c, Chili*† (£80000 debentures)	4 0 0	... 4¼... 4 4¼	...	...Sept. 1875
80000	Pestarena United, g, Italy*†	4 0 0	... 2¾... 2 2¾	...	...Fully pd.
50000	Rica, g, Colombia* (40000 issued)	3 0 0	... ⅜... ⅛ ¼	...	...Fully pd.
£1,1-1,000	Rio Tinto,* c, Huelva, Spain	1 0 0	... — ...	...	...Fully pd.
1 0000	Rossa Grande, g, Brazil*† (£1 shares)	Stock	... 61... 59 61	...	...Fully pd.
80000	Russia Copper, Orenburg and Ufa*†	0 19 0	... ⅛... ⅛ ⅛	...	...July 1872
25000	San Pedro, c, Chili*	10 0 0	... 2¾... 2½ 2¾	...	...Fully pd.
10000	Silver Plume, s, Colorado*	2 0 0	... 1⅞... ⅞ 1⅛	...	...Fully pd.
37500	Snowdrift, s, Colorado*	1 0 0	... — ...	...	...Fully pd.
30000	Tecoma, s, Utah*	2 0 0	... — ...	...	...Fully pd.
20000	Thornhill Reef, g, Australia*	10 0 0	... ¾... ½ ¾	...	...Fully pd.
43174	United Mexican, s, Mexico*†	1 0 0	... ¾... ½ ¾	...	...Fully pd.
14000	Utah, g, s., Utah*	28 15 3	... 2¼... 2 2¼	...	...May 1875
20000	Victoria (London)*, g, Australia (25,000 sh. 16s. pd.)	5 0 0	... — ...	...	...Fully pd.
75000	Yorke Peninsula, c, South Australia	1 0 0	... — ...	...	...Fully pd.
40000	Yorke Peninsula, c, South Australia Preference	1 0 0	... ⅛... ⅛ ⅛	...	...Fully pd.

§ Have made calls since last dividend was paid.

FOREIGN AND MISCELLANEOUS STOCKS, BONDS, LOANS, AND TRUSTS.

	Closing Prices.	
Argentine, 1868, 6 per cent.	50	52
Bolivia, 6 per cent.	17	19
Brazilian, 1865, 5 per cent.	86	88
Chilian, 1866, 7 per cent.	99	102
City of Providence, 5 p.c. coupon bonds	95	97
Egyptian, 1862, 7 per cent.	46	48
Do., 1868, 7 per cent.	45½	46½
Do., 7 per cent., V.M.L.	48	52
Do., 9 per cent. guar.	50	54
Do., 7 per cent., K.M.L.	43	44
Foreign and Col. Gov. Trust, 6 p. cent.	80	85
D., 5 per cent., 2d issue	51	59
D., 6 per cent., 3d issue	60	66
D., 1872, 4th issue	55	60
D., 1873, 5th issue	51	59
Peruvian, 1870, 6 per cent.	18	18¼
Do. 1872, 5 per cent.	14¾	15
Russian, 5½ per cent. L. Mort.	80	83
Spanish, Quicksilver Mort., 6 p. cent.	91	93
United States Mort., 6 per cent.	96	97

NON-DIVIDEND MINES.

Shares.	Mines.	Paid.	Last wk.	Clos. Pr.
40000	Aberdaunant, i, Llanidloes*	1 0 0	... ¾... ½ ¾	
10000	Aberystwith,* s-l, Cardigan	5 0 0	... — ...	
7800	Alvigg. & Burng.,*† t, St. Aust. (£3 sh.)	2 0 0	... 2½... 2½ 2¾	
18000	Ambrose Lake, t, c, Liskeard	1 18 6	... — ...	
12000	Assneton, i, Carnarvonshire*	5 0 0	... 1 ... ½ 1	
50000	Ballycummisk,* c, Schull	2 0 0	... — ...	
12000	Bedford United, c, Tavistock	1 17 6	... ⅞... ⅝ ⅞	
28000	Belstone,* c, Devon (27,000 fully pd.)	1 0 0	... 3... 2¾ 3	
15000	Elaen United,* s-l, Cardigan	1 0 0	... 1½... ⅞ 1⅛	
2937	Blue Hills, t, c, St. Agnes	3 2 6	... — ...	
30000	Bodidris,* l, bl, Denbighshire	1 0 0	... 1 ... 1	
800	Bowden Hill,* ma	1 0 0	... — ...	
6000	Bradwell Moss Rake	1 0 0	... 1½... ⅞ 1⅛	
20000	Brynambor, i, Cardigan	1 0 0	... — ...	
4898	Bwadrain, s-l, Cardigan*	4 0 0	... — ...	
4127	Bwich Consols, s-l, Cardigan*‖	5 0 0	... — ...	
30000	Caldbeck Fells, i, Cumberland*	2 0 0	... — ...	
5584	Carn Camborne, c, t, Camborne	8 3 6	... ⅛... ⅛ ⅛	
10000	Cathedral, t, c, Gwennap*	1 10 0	... 1⅝... 1½ 1⅝	
20000	Central Foxdale, l, Isle of Man* (£2 sh.)	1 0 0	... — ...	
10000	Central Van,* i, bl, Llanidloes	5 0 0	... — ...	
20000	Cwm Dwyfor,* c, s-l, Carnarvonshire	1 0 0	... 1¾... 1 1¾	
15000	Cwm Nant Ddu,* i, Montgomery	1 0 0	... — ...	
3000	Cwmystwith (New) [5l. shares]	4 0 0	... — ...	
10000	Denbighshire Consolidated, i*	2 0 0	... 3 ... 2½ 3	
658	Ding Dong, t, Gulval	51 9 6	... 4 ... 3½ 4	
10000	Dubby Syke, l, Durham*	0 11 6	... ¾... ⅝ ¾	
10000	Duchy Great Consols, c, Calstock	5 0 0	... — ...	
512	East Basset, c, Redruth†§	77 7 6	... 15 ... 10 15	
5000	East Black Craig,* i., Scotland	5 0 0	... 5½... 5 5½	
4000	East Chiverton, i, Perranzabuloe	6 12 0	... 2¾... 2 2¾	
6000	East Goginan, l, Cardigan	2 0 0	... 2 ... 2	
6000	East Grenville, c, Camborne	7 8 6	... — ...	
30000	E. Nant-y-mwyn,* l, Brecknockshire	1 0 0	... ⅜... ⅛ ⅜	
6000	East Tywarnhaile, c, St. Agnes	0 10 0	... 4½... 4¼ 4⅜	
18000	East Van, i, Llanidloes*	8 0 0	... 10¼... 9¾ 10¼	
20000	Elgar,* s-l, Cardiganshire	1 0 0	... 1¼... 1 1⅛	
5000	Frank Mills, l, Christow	5 6 0	... ⅝... ½ ⅝	
8000	Fronvelan, c, Mont.* (4000 sh. £y. pd.)	1 0 0	... 1⅜... 1¼ 1⅜	
3950	Gawton, c, Tavistock	4 1 6	... ⅜... ⅜ ⅜	
12000	Glan Clwyd,* l, Gwyddelwern	1 0 0	... ⅞... ¾ ⅞	
10000	Glan Severn, s-l, Flintshire	1 0 0	... — ...	
2000	Glenroy,* s-l, Isle of Man	4 0 0	... 6 ... 4 5	
10000	Glyn,* l, Llanidloes	2 0 0	... 3¼... 3 3⅜	
15000	Gobbett, t, Dartmoor	1 0 0	... — ...	
12000	Goginan, and Level Newydd, Card., l	2 10 0	... — ...	
100000	Gold, g, Merionethshire	1 0 0	... — ...	
200 10	Goreu,* s-l, Carmarthen	1 0 0	... — ...	
7500	Gorsedd and Merllyn Cons., l, Flint	2 10 0	... 2½... 2⅜ 2½	
20000	Gt. East Foxdale, l, I. of Man (1l sh.)	0 15 0	... — ...	
9500	Great Pant-y-Pydew, l, Holywell	2 0 0	... — ...	
6000	Great Wheal Eleanor, t, North Bovey	1 0 0	... 3 ... 2 3	
18000	Grosvenor, i, Holywell (£1 sh.)	0 7 0	... — ...	
10000	Harehope Gill,* l, Durham (£1 sh.)	0 5 0	... 1 ... ¾ 1	
6400	Harwood,* l, Durham	0 15 0	... 1¼... 1 1¼	
6000	Keswick United, l*	5 0 0	... — ...	
6000	Killifreth, t, Chacewater	1 13 0	... ⅝... ⅜ ⅝	
25000	Kingston Consols, s-l, Stoke Climsland	1 0 0	... 1¼... 1 1¼	
12000	Ladywell,* l, Salop	2 10 0	... 1⅝... 1¾ 1½	
2500	Levant, c, t, St. Just	9 6 6	... — ...	
64	Llandilo, s-l, bl, Flintshire	50 0 0	... — ...	
15000	Llanlivery Cons., t, c, ars, Llanlivery	1 0 0	... 1¼... 1¼	
25000	Llanrhaidr, i, Montgomery*	2 0 0	... — ...	
30000	Llanrwst,* i, Carnarvon	2 0 0	... 3¼... 3 3¼	
15000	Llwyn Teify,* s l, Cardigan	1 0 0	... — ...	
6000	Medlyn Moor, t, Wendron	1 4 10	... 1⅝... 1½ 1⅝	
10000	Mellanear Copper, Hayle*	2 0 0	... — ...	
13000	Monydd Gorddu, l, Cardigan*	5 0 0	... 4 ... 3½ 4	
4000	Nanty, l, Montgomeryshire*	1 0 0	... — ...	
25000	Nant-y-Ronen, s-l, Cardigan*	1 0 0	... — ...	
12000	Neptune,* c, Perranuthnoe	0 5 0	... — ...	
10000	New Beldon, l, Northumberland*	1 0 0	... — ...	
3000	New Chiverton,* l, Perranzabuloe	6 0 0	... 6½... 6¼ 6½	
20000	New Consols, c, Stoke Climsland*	3 0 0	... 1¾... 1 1¾	
8000	New Crickheath,* i, Shropshire	2 0 0	... — ...	
8000	New Dolcoath, t, c, Camborne*	3 0 0	... 1⅜... 1 1⅜	
20000	New East Foxdale, s-l, Isle of Man	0 15 0	... — ...	
16000	New Fowey Consols, t, St. Blazey*	3 0 0	... 2 ... 1⅝ 2	
2 00	New Hendra, t, Breage	2 19 0	... ⅞... ⅞ 1	
10000	New North Pool,* c, Illogan	3 0 0	... 3 ... 2 3	
8400	New Pembroke, t, c, Par Station	5 10 6	... ⅝... ½ ⅝	
5000	New Rosewarne, c, Gwinear	6 2 0	... ¾... ½ ¾	
8000	New St. Agnes,* t, St. Agnes	5 0 0	... 5¾... 5 5¼	
3200	New South Merllyn, l, Flint*	2 10 0	... — ...	
4 00	North Cornwall, l, Cornwall (£5 sh.)	3 0 0	... 5¼... 5 5¼	
17000	North Laxey,* Isle of Man	2 0 0	... 1 ... ⅝ ¾	
20000	North Prince Patrick,* i, Holywell	1 0 0	... 1⅛... 1 1⅛	
2000	North Wheal Towan, t, c, Illogan	1 19 6	... — ...	
1000	North Rosewarne, c, Gwinear	6 12 6	... — ...	
8000	North Treleigh Wood, t, Redruth*	1 0 0	... 1¼... 1 1¼	
5936	North Treskerby, c, St. Agnes	3 17 10	... — ...	
6000	Old Talargoch, l, Flintshire*	2 0 0	... — ...	
2500	Old Tincroft, c, t, Lelant*	4 0 0	... 4 ... 3 4	
16823	Parys Mountain,* c, Anglesea	3 0 0	... ¾... ⅝ ¾	
4000	Pateley Bridge, l, Yorkshire	5 0 0	... 4¼... 3¾ 4	
8530	Pedn-an-drea, t, Redruth§	9 17 0	... — ...	
6000	Pennant, l, bar, North Wales*	5 0 0	... 5¼... 5 5¼	
12000	Pennerley, l, Shropshire*	2 0 0	... 1½... 1¼ 1½	
12000	Plynlimmon, i, Llanidlo